

THE ROLE OF SERVICE LEVEL AGREEMENTS IN RELATIONAL MANAGEMENT OF INFORMATION TECHNOLOGY OUTSOURCING: AN EMPIRICAL STUDY¹

By: **Jahyun Goo**
Information Technology and Operations Management
College of Business
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431-0991
U.S.A.
jgoo@fau.edu

Rajiv Kishore
Department of Management Science and Systems
School of Management
State University of New York at Buffalo
Jacobs Management Center
Buffalo, NY 14260-4000
U.S.A.
rkishore@buffalo.edu

H. R. Rao
Department of Management Science and Systems
School of Management
State University of New York at Buffalo
Jacobs Management Center
Buffalo, NY 14260-4000
U.S.A.
mgmtrao@acsu.buffalo.edu

Kichan Nam
School of Business
Sogang University
1 Shinsoo-Dong, Mapo-Ku
Seoul 121-742
KOREA
knam@ccs.sogang.ac.kr

Abstract

This study extends the view that formal contracts and relational governance function as complements rather than as substitutes. We investigate how specific characteristics of service level agreements (SLAs) impact relational governance in information technology outsourcing relationships. Eleven contractual elements (categorized into three SLA characteristics: foundation, change, and governance characteristics) are hypothesized to act as complements of three relational governance attributes: relational norms, harmonious conflict resolution, and mutual dependence. Data for the study were collected through a survey of South Korean IT executives. Results of the study support the fundamental proposition of complementarity between formal contracts and relational governance, and indicate that well-structured SLAs have significant positive influence on the various aspects of relational governance in IT outsourcing relationships. However, the study also reveals that change characteristics of SLAs may act as a substitute for relational governance as these characteristics were found to dampen the level of trust and commitment through moderation effects. Overall, the findings support the proposition that well-developed SLAs not only

¹Rajiv Sabherwal was the accepting senior editor for this paper. A previous version of this paper was presented at the 25th International Conference on Information Systems in Washington, DC.

1 provide a way to measure the service provider's performance,
 2 but also enable effective management of outsourcing engage-
 3 ments through the development of partnership-style relation-
 4 ships with high levels of trust and commitment.

5
 6 **Keywords:** IT outsourcing, interorganizational relationship,
 7 service level agreement, SLA, formal contract, relational
 8 governance, relational norms, harmonious conflict resolution,
 9 mutual dependencies, trust, commitment, partnership, rela-
 10 tional exchange theory, PLS

11 Introduction

12
 13 The pervasiveness of information technology outsourcing in
 14 business practices and the increased reliance of companies on
 15 outsourcing partners have turned management attention to a
 16 fresh set of skills: the ability to manage interorganizational
 17 relationships with outside service providers (SP) (Kishore et
 18 al. 2003). There are two prevailing perspectives that underlie
 19 most research in interorganizational relationship management:
 20 *formal controls* and *relational governance* (Poppo and Zenger
 21 2002). Formal controls are the written contractual and
 22 management-initiated mechanisms designed to guide behavior
 23 toward desired objectives, whereas relational governance is
 24 unwritten, worker-based mechanisms designed to influence
 25 interorganizational behavior (Macneil 1980). Most IT out-
 26 sourcing literature has focused on the processes of and
 27 behaviors based on trust and social enforcement and on the
 28 effects of relational governance and relationship quality on IT
 29 outsourcing success, providing some evidence for this rela-
 30 tionship (e.g., Lee and Kim 1999). However, this literature
 31 has largely ignored the question of how to foster and manage
 32 necessary attributes of partner relationships that promote high
 33 relationship quality for achieving outsourcing success.

34
 35 Further, most outsourcing relationships are usually governed
 36 by a formal contract. Therefore, it is not enough to simply
 37 develop an understanding of how to foster and improve
 38 relational governance in an outsourcing relationship; we also
 39 need to understand how to do so in the context of a formal
 40 contract. Most empirical and theoretical work on relational
 41 governance across multiple disciplines (e.g., marketing, stra-
 42 tegic management, and IT outsourcing) couches it as a self-
 43 enforcing mechanism. Within this tradition, some ignore the
 44 role of formal contracts (e.g., Mohr and Spekman 1994),
 45 while others view formal contracts as a more costly substitute
 46 for relational governance (e.g., Gulati 1995; Uzzi 1997). Still
 47 others argue more strongly that the combined use of relational
 48 governance and formal contracts is fundamentally prob-
 49 lematic, since formal controls signal distrust while relational
 50 governance is based on trust (e.g., Ghoshal and Moran 1996).

Contrary to this substitution position, Poppo and Zenger
 (2002) empirically showed that formal contracts and relational
 governance function as complements. These authors found
 that managers employed greater levels of relational norms as
 their contracts became increasingly customized, and utilized
 a higher degree of contractual complexity as they developed
 greater levels of relational governance. Thus, while results of
 this study provided evidence that relational governance can be
 used concurrently with a formal contract to achieve high
 exchange performance, Poppo and Zenger acknowledged a
 greater need for attention to measurement to develop a better
 understanding about the relationship between specific
 contractual clauses and relational governance, and their
 impact on outsourcing success.

The present study responds to this call to further shed light on
 the nature and effects of the relationship between formal
 contractual clauses and relational governance. Our goal in
 this paper is to take an in-depth look at the detailed formal
 contract between the two contracting parties, often called a
 service level agreement (SLA)² in an outsourcing context, and
 to examine the impact of specific SLA clauses on relational
 governance. Further, while the fundamental proposition in
 this paper is that comprehensive and well-defined contracts
 promote relational governance, our goal is to test for both a
 complementary as well as a substitution relationship between
 SLAs and relational governance because arguments in the
 literature for both of these relationships are cogent and
 plausible.

This study makes a twofold contribution. First, we extend
 Poppo and Zenger's finding that formal contracts and rela-
 tional governance function as complements, and not as
 substitutes. We open the black box of complementary rela-
 tionship and examine whether and what formal contractual
 clauses in SLAs lead to relational governance. Our results
 show that change characteristics in the formal contract
 dampen trust and commitment rather than reinforcing them,
 suggesting careful use of these clauses in outsourcing con-
 texts. Second, this study contributes to the IT outsourcing
 literature regarding the role that SLAs can play in fostering
 harmonious, cooperative relationships that have high levels of
 trust and commitment. Although many studies in the IT out-
 sourcing area have mentioned the important role that SLAs
 can play in managing IT outsourcing relationships, to our
 knowledge this study is the first one that empirically examines
 specific characteristics of formal contracts that help in
 building partnership-style relationships.

²We use the terms *service level agreement*, *formal contract*, *contract*, and
agreement interchangeably in this paper to avoid repetition and monotony.

1 The rest of the paper is organized as follows. We begin by
 2 reviewing the literature on formal contracts, relational govern-
 3 ance, and their complementarity versus substitution, followed
 4 by a discussion about use of SLAs in IT outsourcing relation-
 5 ships. We then discuss the contractual elements of SLAs and
 6 their theoretical justification. Next, the research model and
 7 the hypotheses are presented. The research method is then
 8 discussed. Subsequently, the paper presents the results fol-
 9 lowed by a discussion of the findings of this study and their
 10 implications. The paper concludes with the limitations of this
 11 study and some future research directions.

12 Theory Development

13 **Formal Contracts**

14 Transaction cost economics (TCE) has emerged as a common
 15 framework for understanding the choice of governance mode
 16 in economic activities. TCE suggests that in response to
 17 exchange hazards, firms either craft complex contracts or may
 18 choose to vertically integrate when such contracts are too
 19 costly to craft and enforce. As exchange hazards rise, so must
 20 contractual safeguards, if contracting is chosen as the govern-
 21 ance mechanism (Williamson 1985). These safeguards act to
 22 minimize costs arising from exchange hazards and help firms
 23 to build initial institutional trust (McKnight et al. 1998;
 24 Zucker 1986). Many have argued, however, that TCE over-
 25 states the desirability of either integration or explicit contrac-
 26 tual safeguards in exchange settings commonly labeled as
 27 hazardous (Ghoshal and Moran 1996). In addition, TCE and
 28 related perspectives in contracting hold that bounded ration-
 29 ality and uncertainty prevent parties from writing detailed and
 30 complete contracts that deal with all possible contingencies
 31 (Hart 1988), and the use of social mechanisms can play a role
 32 to complement the adaptive limits of formal contracts (Poppo
 33 and Zenger 2002). Thus, incomplete contracting encourages
 34 the literature to view formal and relational contracts as com-
 35 plements for one another, particularly when we are dealing
 36 with IT outsourcing contracts, which are necessarily incom-
 37 plete (Mayer and Argyres 2004).

38 **Relational Governance**

39 Relational governance refers to the role of the enforcement of
 40 obligations, promises, and expectations that occur through
 41 trust and social identification. It builds on the assertion, arti-
 42 culated by Macneil (1980), that contracting is never com-
 43 pletely *discrete* (i.e., anonymous, characterized by limited
 44 communication, as assumed by neoclassical theories), and
 45 even the most fundamental model of discrete exchange

includes some relational elements. Central to Macneil's argu-
 ment is the proposition that relational exchange is based on a
 social component, largely represented by trust and commit-
 ment. A rich body of empirical work has demonstrated that
 relational governance improves the performance of inter-
 organizational exchanges in general (McEvily et al. 2003a),
 and IT outsourcing in particular (Sabherwal 1999). In a
 similar vein, Dore (1983) discusses the role that commitment,
 mutual dependence, trust, and relational norms play in the
 maintenance of exchange relationships between firms. Particu-
 larly, these attributes appear to play a major role in the
 context of IT outsourcing relationships in that successful
 management of an outsourcing relationship today requires a
 highly interactive, flexible relationship between two organiza-
 tions in order to sustain over the strategic planning horizon.
 This view of relational governance deviates from William-
 son's (1985) conceptualization of "relational" governance,
 which treats it as an intermediate governance mode between
 markets and hierarchies and holds that this governance mode
 is maintained by economic weapons such as hostages and
 credible commitments to keep opportunistic behavior at bay.
 In this study, we follow the social conceptualization of rela-
 tional governance in which the enforcement of obligations,
 promises, and expectations occurs through social processes
 that promote norms of flexibility, solidarity, and information
 exchange (Poppo and Zenger 2002) rather than the William-
 sonian view of relational governance in which enforcement
 occurs through economic means. In the social conceptuali-
 zation, relational governance heightens the probability that
 trust and cooperation will safeguard against hazards that are
 poorly protected by a formal contract, thereby helping over-
 come the adaptive limits of contracts.

41 **Substitution Versus Complementarity Between the Two Governance Mechanisms**

42 Poppo and Zenger (2002) investigated whether formal con-
 43 tracts and relational governance act as substitutes or as com-
 44 plementary governance mechanisms in governance choices
 45 with respect to their IT portfolios. We provide a brief discus-
 46 sion of these two opposing views, but the reader is referred to
 47 Poppo and Zenger for a fuller discussion on this topic.

48 A number of researchers in the governance area have argued
 that relational governance mechanisms such as trust substitute
 the need for formal contracts (e.g., Macaulay 1963), espe-
 cially as the relationship develops (Gulati 1995; Ring and Van
 de Ven 1994). This stream of literature considers this substi-
 tution as operating through one of two mechanisms. Either
 relational governance eliminates the need for formal contracts
 and vice versa (Gulati 1995), or formal contracts directly

1 hinder the formation of relational governance (Ghoshal and
 2 Moran 1996; Macaulay 1963). In the former view, the pres-
 3 ence of relational governance obviates the need for formal
 4 contracts because if one party trusts the other, there is little
 5 need for contractually specifying the obligations and respon-
 6 sibilities of the two parties. Thus, it reduces transaction costs
 7 by replacing contracts with informal self-enforcing mech-
 8 anisms such as trust and reputation (Gulati 1995). Formal
 9 contracts may also actually undermine the formation of rela-
 10 tional governance. For example, Macaulay (1963, p. 64)
 11 argues that the use of an elaborate contract “indicates a lack
 12 of trust...turning a cooperative venture into an antagonistic
 13 horse trade.” Contracts may also encourage rather than sup-
 14 press opportunistic behavior with respect to actions that
 15 cannot be specified within a contract (Klein 1996).

16
 17 Despite these convincing arguments about relational govern-
 18 ance and formal contracts acting as substitutes, the logic for
 19 considering these two governance devices as complements,
 20 rather than as substitutes, appears to be equally compelling.
 21 Researchers have noted that the combined power of formal
 22 contracts and relational governance may be much higher in
 23 terms of safeguarding assets and they can jointly deliver much
 24 higher exchange performance than either governance choice
 25 in isolation (Baker et al. 1994; Mayer and Argyres 2004).
 26 Well-specified contracts narrow the domain and severity of
 27 risk to which an exchange is exposed and thereby encourage
 28 cooperation and trust. In addition, well-crafted contracts
 29 promote longevity in exchanges by increasing the penalties
 30 that accompany severing an exchange relationship (Baker et
 31 al. 2002; Klein 1996). Further, the process of developing a
 32 comprehensive and complex contract itself requires parties to
 33 engage in joint problem solving. Both parties have to work as
 34 a team to develop and negotiate the various provisions that
 35 will be incorporated in the SLA, including difficult aspects of
 36 the contract such as acceptable service levels, penalties for
 37 noncompliance, and future contract changes. These joint
 38 efforts also lead to the development of social relationships
 39 between the two parties. It is to be noted that the comple-
 40 mentary relationship between formal contracts and relational
 41 governance may also function in reverse. The continuity and
 42 cooperation encouraged by relational governance may gener-
 43 ate contractual refinements, as lessons learned during contract
 44 execution may be incorporated with mutual consent in con-
 45 tract revisions. This may further support greater cooperation
 46 in future periods.

47 **IT Outsourcing and Service** 48 **Level Agreements**

49
 50 We define IT outsourcing as contracting with third party SPs
 51 for the provision of some or all of an organization’s IT func-

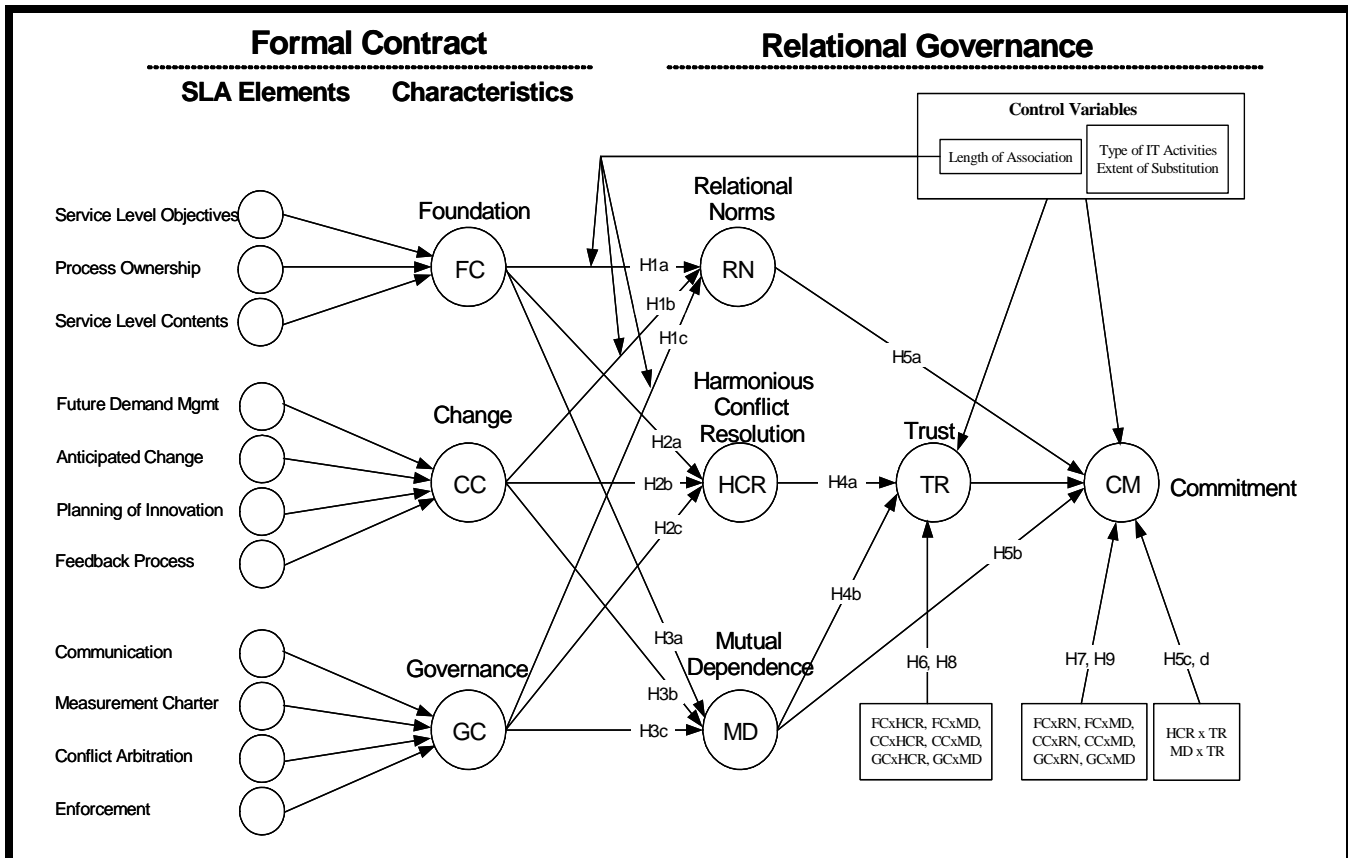
tions. An IT function includes a recurrent activity, process,
 or service, and not a discrete event like purchasing a single
 unit of an off-the-shelf product or resource. Practitioners
 (e.g., Sturm et al. 2000) have often proclaimed that the key to
 managing successful IT outsourcing relationships is through
 the use of formal and comprehensive SLAs, defined as a
 formal written contractual agreement between the service
 recipient (SR) and the service provider (SP) that specifies the
 various facets of the service to be provided at certain levels to
 meet business objectives. In many cases, however, IT organi-
 zations lack well-developed SLAs that can be used to effec-
 tively gauge and manage relationships and activities asso-
 ciated with IT outsourcing (Fitzgerald and Willcocks 1994;
 Karten 2004). Service level agreements often still contain
 clauses dealing only with the most rudimentary service ele-
 ments and metrics and ignore important issues pertaining to
 governance (including communication mechanisms, joint
 decision-making mechanisms, and conflict management) as
 well as those pertaining to the evolution of contracts based on
 past results and the client’s changing business needs. Such
 agreements ignore the many intangible benefits that can be
 derived from them in terms of achieving effective SP–SR
 relationships (Kern et al. 2002). There is, therefore, a need
 for SLAs that include processes for dealing with changing
 business needs, joint decision making, communication, and
 conflict resolution in addition to target service levels. Conse-
 quently, we develop a comprehensive template for service
 level agreements in this study. This template contains three
 major sets of contract provisions that we call SLA charac-
 teristics,³ and they include foundation, change, and govern-
 ance characteristics. Development of this SLA template is
 discussed later in the research methodology section; the
 specific agreement characteristics are discussed below.

Research Model and Hypotheses

Following Poppo and Zenger (2002), this study intends to
 examine the existence of a dynamic complementary relation-
 ship between a formal contract and relational governance. In
 other words, a well-developed and well-specified formal con-
 tract in the form of a comprehensive SLA may promote more
 cooperative, long-term, and trusting exchange relationships.
 Various agreement elements influence the development of key
 relational attributes including relational norms (RN), har-
 monious conflict resolution (HCR), and mutual dependence

³In this study, we use the term *SLA characteristic* to refer to a formal contract clause. We do this because actual clauses may differ in different SLAs. While a particular clause may not be explicitly specified in a particular SLA, the essence of that clause may still be present in the SLA. Thus, we use the term *characteristic* rather than the term *clause* in this paper.

1
2



3 **Figure 1. Research Model**

4 (MD). These in turn shape desired relational outcomes of
 5 trust (TR) and commitment (CM) that directly act as relational
 6 governance devices and mitigate exchange hazards, as disc-
 7 cussed above. However, consistent with prior literature, we
 8 also admit the possibility of substitution in addition to com-
 9 plementarity between the two governance modes and test this
 10 possibility in the present study. Figure 1 presents the concep-
 11 tual model used in the study.

12 **Formal Contracts: Three Characteristics of**
 13 **SLAs in IT Outsourcing**

14
 15 *Foundation characteristics* (FC) of SLAs include provisions
 16 that specify the key principles and agreements between the
 17 parties, the key process owners and their roles and responsi-
 18 bilities, and the target levels of product and service perfor-
 19 mance. The intent behind the provisions under foundation
 20 characteristics of an SLA is to publicize the common beliefs
 21 shared by the two organizations so that their IT outsourcing
 22 relationship could build common goals and a general commit-

ment toward the outsourcing relationship (Choudhury and Sabherwal 2003). By clearly and explicitly defining the intent and goals of the relationship, the objectives that initially drove the creation of the relationship can be at least partially understood and shared by a group of decision makers and the staff members who inherit the relationship (Choudhury and Sabherwal 2003; Koh et al. 2004). In addition, these provisions also set clear standards of conduct by defining the roles and responsibilities of the various parties involved in the outsourcing relationship.

Contractual terms associated with *change characteristics* (CC) of SLAs include provisions concerning processes for resolving unforeseeable outcomes of future demand, processes for implementing foreseeable contingencies and changes, processes for introducing new innovations coordinated with incentive plans, and processes of feedback and efficient adjustments in the contract. These provisions, grouped under change characteristics of an agreement, attempt to develop the ground rules and procedures for dealing with future contingencies. These provisions are

1 expected to lead to desired outcomes if followed (Kirsch
2 1997), as the IT environment evolves rapidly and business
3 conditions often require fast response from the SP to modify
4 current services or deliver new services. The idea here is that
5 although comprehensive contracting is not a feasible option
6 by reason of bounded rationality, limited but intentional
7 rationality is translated into incomplete but farsighted con-
8 tracting (Williamson 1996). Indeed, previous research in IT
9 outsourcing has called for investigating the possibility and
10 impacts of evolving specifications for highly uncertain or
11 unstructured tasks (Choudhury and Sabherwal 2003).

12
13 Contractual terms associated with *governance characteristics*
14 (GC) of SLAs specify ways to maintain the relationships
15 through a clear statement of the measurements, penalty and
16 incentives, exit options and responsibilities, and documented
17 communication processes as well as processes for identifying
18 and resolving potential disputes. Thus, the contractual ele-
19 ments underlying governance characteristics set adminis-
20 trative procedures to continually assess the value that the
21 relationship is generating for the various stakeholders and to
22 ensure that the relationship remains on course (Ouchi 1979).
23 Both economists and organizational theorists alike support the
24 spirit of governance characteristics. For example, it is sug-
25 gested that outcomes and rewards be linked in order to
26 succeed in managing interorganizational relationships (e.g.,
27 Kirsch 1997). Especially to safeguard against hold-up
28 behavior where relationship-specific investments are high,
29 contracts need to specify not only required actions and condi-
30 tions of contractual breach, but also a framework for resolving
31 unforeseen disputes (Williamson 1996). Moreover, inter-
32 organizational relationship literature documents the existence
33 of formal systems for conflict resolution relying on two-way
34 communication and joint problem solving (Deutsch 1973).

35 **Relational Governance**

36 **Relational Norms**

37
38
39 *Relational norms* (RN) are patterns of accepted and expected
40 behaviors that are partially shared by a group of decision
41 makers and directed toward collective or group goals (Heide
42 and John 1992; Jap and Ganesan 2000). Similar to past
43 researchers, we focus on three types of relational norms:
44 solidarity, information exchange, and flexibility. Solidarity
45 is a bilateral expectation that behaviors are directed toward
46 relationship maintenance and a high value is placed on the
47 joint relationship (Macneil 1980). Information exchange is
48 the expectation that the parties will freely and proactively
49 provide useful information to each other (Heide and John
50 1992). Flexibility refers to the joint expectation that both

parties will be willing to make adaptations as circumstances
change (Dwyer et al. 1987). These norms thus address
behavioral expectations in ongoing, day-to-day relationships,
quite relevant to most IT outsourcing exchanges (Kern and
Blois 2002). We argue that comprehensive and well-specified
SLAs will help both SPs and SRs in building relational norms
because their mutual expectations pertaining to solidarity,
information exchange, and flexibility are defined jointly by
them while developing their contracts. Thus, well-specified
agreements may transform formal agreements into institu-
tionalized unwritten codes of conduct that powerfully affect
the behaviors of individuals within firms (Zucker 1986).

Foundation characteristics of SLAs might foster relational
norms of solidarity as they encapsulate goals for and expecta-
tions from each party, which may shape a sense of mutuality.
Joint development of mutual expectations and goals, possible
investments, and capabilities of the SP might also elevate
tight coupling between the SR and the SP. Identification of
process ownership and service contents to be delivered also
help formalize the roles and responsibilities of the provider
and the recipient in outsourcing arrangements. This enables
both SRs and SPs to know more about each others' capa-
bilities and so they are better able to match their resources to
needs (Miranda and Saunders 2003). Therefore,

*Hypothesis 1a: Foundation characteristics of SLAs
positively influence relational norms.*

Change characteristics of SLAs are expected to foster rela-
tional norms of flexibility by furnishing detailed plans for
dealing with future contingencies. The two parties know that
the contract is not rigid and will evolve as needs change,
following the processes for effecting such changes. For
example, future demand management plan and anticipated
change plan may contain provisions that detail contingency
plans for the relationship. These provisions reflect the joint
expectation that both parties are willing to make necessary
adaptations to the contract as business and environmental
circumstances change (Dwyer et al. 1987). Change and inno-
vation plans describe appropriate information to be exchanged
and appropriate actions to be taken by both the SP and the SR
concerned so they can react to unexpected events and develop
innovative responses to changing business needs. Therefore,

*Hypothesis 1b: Change characteristics of SLAs
positively influence relational norms.*

Governance characteristics of SLAs engender active exchange
of information. The communication plan in an SLA identifies
communication initiatives and policies, and encourages both
parties to keep each other informed about the events and

1 changes that may affect the other party. The communication
 2 plan also specifies reporting responsibilities pertaining to the
 3 outsourcing project to ensure the effective flow of information
 4 to the SR. In addition, enforcement plan and conflict arbitra-
 5 tion charter provide the SR and the SP with shared expecta-
 6 tions about behaviors in this realm, and this may promote
 7 solidarity in the relationship. In addition, contractually agreed
 8 communication and feedback mechanisms such as regular
 9 meetings and report exchanges may also facilitate information
 10 exchange (Kern and Willcocks 2002). Therefore,

11
 12 *Hypothesis 1c: Governance characteristics of SLAs*
 13 *positively influence relational norms.*

14 **Harmonious Conflict Resolution**

15
 16 Conflict is inherent in interorganizational relationships
 17 because of partner opportunism, goal divergence, and cross-
 18 cultural differences (Doz 1996). It is inevitable in out-
 19 sourcing arrangements due to technology complexities,
 20 dynamic and fast-paced business environment, and disparate
 21 goals of the two parties. Given that a certain amount of con-
 22 flict is expected, how such conflict is managed is important
 23 (Borys and Jemison 1989; Kale et al. 2000) because the
 24 impact of conflict resolution on the relationship can be pro-
 25 ductive or destructive (Deutsch 1973). Harmonious conflict
 26 resolution (HCR) refers to the extent to which parties achieve
 27 mutually satisfying resolutions of their conflicts and, thus,
 28 disagreements are replaced by agreement and consensus
 29 (Robey et al. 1989). Conflict resolution literature suggests
 30 that activities or processes to resolve conflicts be initiated by
 31 explicit resolution plans in the relationship (Dant and Schul
 32 1992). This suggests that a number of contractual elements
 33 may be incorporated within SLAs to manage conflicts
 34 harmoniously.

35
 36 Organizations may resolve conflicts harmoniously by estab-
 37 lishing common and shared goals that are mutual and readily
 38 apparent to both parties (Dant and Schul 1992; March and
 39 Simon 1958). Foundation characteristics of SLAs can
 40 enhance such an understanding by providing accurate infor-
 41 mation about the joint goals and priorities of the two parties.
 42 Process ownership and responsibilities specified as part of the
 43 foundation characteristics of an agreement might mitigate the
 44 likelihood of conflicts by reducing uncertainty about formal
 45 roles and procedures that govern the relationship. Further,
 46 clear guidelines specifying the rights and obligations of both
 47 parties may also improve coordination and, thus, increase
 48 both parties' capability to resolve conflicts successfully and
 49 in mutual satisfaction, when conflicts do occur or escalate.
 50 Therefore,

Hypothesis 2a: Foundation characteristics of SLAs
positively influence harmonious conflict resolution.

Change characteristics of SLAs also provide mechanisms for dealing with uncertainties in the environment and changes in the business needs in a joint manner, fostering closer collaboration between the SP and SR (Kale et al. 2000). Future demand management and anticipated change plans address ways to respond to new demands and handle changes during the course of relationship, which are usually the bone of contention among transacting parties. This not only provides each party with a better understanding of mutual concerns but also enables prompt recognition of potential conflict situations. The processes for resolving unforeseeable outcomes, implementing foreseeable contingencies, introducing new innovations, and providing feedback that are outlined in the agreement in an explicit manner should lower the potential for conflicts and enhance the likelihood of harmonious conflict resolution. Therefore,

Hypothesis 2b: Change characteristics of SLAs
positively influence harmonious conflict resolution.

Governance characteristics of SLAs engender a communication-intensive process of harmonious conflict resolution. Clear lines of communication lead to continued growth of close ties, and this has been acknowledged in the literature as a key element of harmonious resolution in potential conflict situations (Cumming 1984). Partners can set up formal joint mechanisms including a schedule for regular interaction and timetable for resolving issues, as well as a conflict arbitration charter to institutionalize peaceful and harmonious ways for managing potential conflict situations (March and Simon 1958). By specifying the use of a conflict arbitration charter in their agreement, the concerned parties can also properly seek third party intervention when they fail to reach an acceptable solution by interorganizational means. Therefore,

Hypothesis 2c: Governance characteristics of SLAs
positively influence harmonious conflict resolution.

Mutual Dependence

Mutual dependence (MD) is the recognition by both partners in an exchange relationship that the relationship provides benefits greater than either partner could attain alone or with some other partner (Lambe et al. 2000). Thus, the existence of mutual dependence in exchange relationships is often illustrated by mutual value creation (Borys and Jemison 1989). Because MD develops as value continues to be created through joint efforts of the two partners after the formation of

1 an outsourcing relationship, it raises issues of coordination of
2 different philosophies, operations, administrative systems, etc.
3 of the two partners. We argue that the three agreement
4 characteristics help the service provider and the service
5 recipient to reasonably coordinate these differences without
6 hold-ups or opportunistic behavior that may arise from
7 uncertainties during the period of contract.

8
9 Foundation characteristics of SLAs lay out a set of compatible
10 goals and institutionalized mutual expectations. They also
11 specify what services will be delivered by the provider, to
12 what extent, and when and where they are required. These
13 elements provide both the SP and the SR with a clear
14 understanding of service and reward levels resulting in
15 exchange effectiveness and value creation (Borys and
16 Jemison 1989). Realization of benefits may in turn inspire
17 both the service recipient and the service provider to actively
18 engage in further development of mutual dependency to gain
19 further from their mutually beneficial outsourcing relationship
20 (Lambe et al. 2000). Therefore,

21
22 *Hypothesis 3a: Foundation characteristics of SLAs*
23 *positively influence mutual dependence.*

24
25 Mutual dependence between the two partners may also
26 increase when clear guidelines for coordination are able to re-
27 duce the uncertainty that may arise from future contingencies
28 (Jap and Ganesan 2000). Change characteristics in SLAs deal
29 with such look-ahead features and include future change
30 clauses that delineate the processes for scheduling and modi-
31 fying agreements as new needs arise. Both the service pro-
32 vider and the service recipient understand that following the
33 change and contingency management processes outlined in
34 the agreement would lead to future value creation, and this
35 should deepen their interdependence (Kirsch 1997). There-
36 fore,

37
38 *Hypothesis 3b: Change characteristics of SLAs*
39 *positively influence mutual dependence.*

40
41 Mutual dependence also develops as partners invest in the
42 exchange relationship and foresee positive mutual outcomes.
43 An enforcement plan in governance characteristics of an SLA
44 is likely to codify penalties associated with opportunistic
45 behaviors as well as rewards resulting from innovative
46 initiatives made by both parties. By assuring that the service
47 recipient and service provider will recoup their investments
48 either through continuance of their relationship or through
49 penalties, if the relationship breaks prematurely, enforcement
50 provisions foster attachment in the exploration phase of an
51 outsourcing engagement (Levinthal and Fichman 1988). A
52 feedback plan in the agreement also provides the opportunity

for the two parties to learn how to work together (Mayer and
Argyres 2004). This learning becomes a relationship-specific
investment that promotes further development of mutual
dependence. Therefore,

Hypothesis 3c: Governance characteristics of SLAs
positively influence mutual dependence.

Trust

Trust (TR) reflects one party's belief that its requirements will
be fulfilled through future actions undertaken by the other
party (Zaheer and Venkatraman 1995) and is viewed as a
necessary condition for relational governance (McEvily et al.
2003). In this study, we focus on the SR's trust in the SP.
This trust captures the SR's beliefs about the SP's bene-
volence, integrity, and honesty in the context of their IT
outsourcing relationship, and stems from the maintenance of
their current exchange (i.e., harmonious conflict resolution)
and expectations about future exchange between them (i.e.,
mutual dependence).

As IT outsourcing relationships are typically characterized by
uncertainty in specifying desired outcomes or steps to achieve
them, as well as by information asymmetry between service
recipients and service providers, they are rife with potential
disputes and opportunism. In this regard, harmonious conflict
resolution can be particularly important because it can
engender feelings of procedural justice between the provider
and the recipient (Kale et al. 2000). These feelings of justice
in addition to the service recipient's positive experiences
about the service provider's behavior during the conflict
resolution process may help improve the recipient's views
about the provider's sincerity, integrity, and honesty, thereby
increasing the SR's trust in the SP (Mayer and Argyres 2004).
Therefore,

Hypothesis 4a: Harmonious conflict resolution
positively influences trust.

Trust is affected by the way in which interfirm interactions
are organized and conducted (Kumar et al. 1995). It is
unlikely to exist in minimally interdependent relationships
because this sentiment is less relevant to the functioning of
such relationships (Dwyer et al. 1987). In contrast, highly
interdependent relationships may develop a higher degree of
trust. High interdependence makes it increasingly dangerous
for the partners to engage in opportunistic behavior or
coercion because both the parties have much to lose. These
convergent interests also decrease power asymmetry between
the recipient and the provider and encourage each party to

1 cultivate its partner's trust, because neither party can use its
 2 asymmetric power to obtain the partner's cooperation. Thus,
 3 mutual dependence creates a higher need for trust and con-
 4 tributes to its development (Anderson and Weitz 1992).
 5 Therefore,

6
 7 *Hypothesis 4b: Mutual dependence positively*
 8 *influences trust.*

9 **Commitment**

10
 11 Consistent with Scanzoni (1979) and Kumar et al. (1995),
 12 commitment (CM) to the outsourcing relationship in this
 13 study entails *durability* (a desire to continue a relationship
 14 because of positive affect toward the partner), *input* (a
 15 willingness to be deeply involved in the relationship through
 16 investment of capital and effort), and *consistency* (a confi-
 17 dence in the stability of the relationship). Following past
 18 literature, we posit that relational norms and mutual depen-
 19 dence influence the development of such an integrative
 20 commitment in the context of an IT outsourcing relationship.
 21 We do not hypothesize the impact of trust on commitment in
 22 this study, but include this relationship in our model as it has
 23 been found to be statistically significant in prior studies (e.g.,
 24 Morgan and Hunt 1994).

25
 26 Relational norms direct the focus of a service provider to a
 27 long-term orientation overall. Norms of flexibility may influ-
 28 ence the development of stability in relationships as flexibility
 29 encourages adjustments when disturbances due to technology
 30 and other environmental changes occur. Norms of solidarity
 31 shift the focus of each party from self-centered behaviors to
 32 behaviors that foster unity arising from common respon-
 33 sibilities and interests. The relational value of solidarity
 34 figures prominently in promoting exchange into the future. It
 35 ensures a "keep on with it" attitude such that each party
 36 desires to and is able to be involved with the other (Jap and
 37 Ganesan 2000). Therefore,

38
 39 *Hypothesis 5a: Relational norms positively influ-*
 40 *ence commitment.*

41
 42 In a situation of high mutual dependence, both parties need
 43 the relationship to continue in a stable manner for them to
 44 achieve their respective goals, and this increases their com-
 45 mitment to the relationship (Anderson and Weitz 1989). In
 46 addition, mutual dependence also increases partners' knowl-
 47 edge about each other and allows them to perform their
 48 respective tasks more effectively. This may, in turn, lead to
 49 a mutual desire to have an enduring relationship. Indeed,

research suggests that interdependence is critical for pro-
 moting cooperation and adaptation in relational exchange and
 a key contributor to partner commitment (Dwyer et al. 1987).
 Therefore,

Hypothesis 5b: Mutual dependence positively
influences commitment.

We argued above that harmonious conflict resolution and
 mutual dependence positively influence trust and proposed
 hypotheses 4a and 4b accordingly. However, the converse of
 these two relationships may also be true (e.g., Deutsch 1973).
 Trust may serve as the lubricant that produces more
 harmonious conflict resolution and it may also make the two
 parties comfortable in making themselves dependent on the
 other party. This indicates the possibility of mutually rein-
 forcing reciprocal relationships between trust and harmonious
 conflict resolution, and between trust and mutual dependence.
 Through this cyclical reinforcement, the impact of trust on
 commitment is further strengthened, which suggests that
 harmonious conflict resolution and mutual dependence may
 have positive moderating impacts on the relationship between
 trust and commitment. Therefore,

Hypothesis 5c: Interaction between harmonious
conflict resolution and trust positively influences
commitment.

Hypothesis 5d: Interaction between mutual depen-
dence and trust positively influences commitment.

Formal Contract and Relational Governance as Substitutes Versus Complements

A complete and reliable test without information loss for
 complementarity versus substitution between formal contract
 and relational governance would be to incorporate appropriate
 bi-directional links in the model. However, we are not able
 to test bi-directional linkages in the current study as both
 formal contract and relational governance variables are
 endogenously determined and the model does not meet the
 rank and order conditions. We, therefore, use the interaction
 effects method, also used by Poppo and Zenger (2002), for
 testing complementarity/substitution between formal contract
 and relational governance. Following this approach, we test
 the interaction effects of the three SLA characteristics
 (foundation, change, and governance characteristics) and the
 three relational governance variables (relational norms, har-
 monious conflict resolution, and mutual dependence) on trust

Table 1. Hypotheses for Testing Substitution Versus Complementary Between SLA Characteristics and Relational Governance Using Interactions

Substitutes				Complements			
SLA Characteristics	Relational Governance Variables	Trust	Commitment	SLA Characteristics	Relational Governance Variables	Trust	Commitment
FC	RN		H7a	FC	RN		H9a
	HCR	H6a			HCR	H8a	
	MD	H6b	H7b		MD	H8b	H9b
CC	RN		H7c	CC	RN		H9c
	HCR	H6c			HCR	H8c	
	MD	H6d	H7d		MD	H8d	H9d
GC	RN		H7e	GC	RN		H9c
	HCR	H6e			HCR	H8e	
	MD	H6f	H7f		MD	H8f	H9f

9 and commitment, the two relational outcomes in this study.⁴
 10 We include only those interaction terms for which there is a
 11 main effect hypothesized in the model for trust and commit-
 12 ment. Thus, an interaction effect between foundation charac-
 13 teristics and harmonious conflict resolution (FC × HCR) is
 14 included on trust but the interaction between foundation
 15 characteristics and relational norm is not included on trust
 16 because relational norms is not hypothesized to directly
 17 influence trust (Carte and Russell 2003). Further, our inter-
 18 action terms are modeled with the agreement characteristics
 19 acting as “pure” moderators (Carte and Russell 2003) because
 20 SLA characteristics are not hypothesized to directly impact
 21 trust and commitment.⁵ Evidence of substitution between
 22 formal contract and relational governance will exist if the
 23 coefficients of the interaction terms are negative. Evidence of
 24 complementarity between formal contract and relational
 25 governance will exist if the coefficients of the interaction
 26 terms are positive. To test for both possibilities requires 24
 27 corollary hypotheses that are based on the general hypothesis:
 28 [SLA characteristics: FC / CC / GC] and [relational govern-
 29 ance variable: RN / HCR / MD] will function as [substitutes

/ complements] in explaining [trust / commitment], and these hypotheses are succinctly shown in Table 1.

Control Variables

The model incorporates three control variables that may influence trust and commitment: type of IT activity outsourced, length of association, and extent of substitution. The type of outsourced IT activity represents an important variable that has an influence on many outcome variables in an outsourcing context including commitment of the partners to the relationship. A longer duration of association is generally expected to influence the development of a high-quality relationship and, thereby, a higher degree of trust and commitment in the relationship (Levinthal and Fichman 1988). We, therefore, include length of association as a control variable in the study. Length of association is also expected to moderate the relationship between the three SLA characteristics and relational norms. Any interorganizational relationship passes through the three stages of negotiation, agreement, and execution over time (Ring and Van de Ven 1994), and this passage of time is expected to reinforce the relational norms that are developed as a result of the contract characteristics. Finally, extent of substitution, defined as the proportion of total IT budget spent on outsourcing (Kishore et al. 2003), may also influence the realm of the service recipient/service provider relationships because an outsourcing contract where a large portion of a firm’s IT budget is outsourced raises issues of lock-in, thereby requiring or developing a higher degree of commitment to the relationship. Next we discuss the research methodology used in this study.

⁴When two predictor variables substitute for each other in their impact on a criteria variable, the joint effect of the two variables on the criteria variable is much lower and this is captured in a negative interaction effect of the two variables on the criteria variable. We also thank one anonymous reviewer who recommended that we test complementarity/substitution effects using interaction terms.

⁵Thus, our interaction terms take the form $y = x + x \cdot z$ and not the form $y = x + z + x \cdot z$ where y is either TR or CM, x is one of the three relational variables, and z is one of the three SLA characteristics.

1 Research Methods

3 Data Collection

5 The current study utilized a “key informants” methodology
6 for data collection (e.g., Segars and Grover 1998). In survey
7 research, targeted respondents assume the role of a key
8 informant and provide information on a particular unit of
9 analysis by reporting on group or organizational properties.
10 However, if a respondent lacks appropriate knowledge, results
11 can be confounding and may lead to erroneous conclusions.
12 Therefore, within the context of this study, it was important
13 to not only identify organizations that actively engaged in IT
14 outsourcing and implemented an SLA for management of
15 their outsourcing engagements, but to also identify respon-
16 dents within those organizations who were intimately in-
17 volved with, and most knowledgeable about, the outsourcing
18 activity and the agreements. With this in mind, pre-recruiting
19 calls were made to IT professionals in the attendee list of a
20 national outsourcing conference in South Korea. This process
21 generated a list of organizations that undertook IT outsourcing
22 through SLAs with an external IT provider within the last five
23 years. Through this process, we also generated a list of IS
24 executives (vice president, CIO, director, contract officer, the
25 head of IT sourcing management team) who appeared to be
26 accurate sources of organizational information regarding IT
27 outsourcing decisions and implementation via service level
28 agreements. In all, 150 executives from this sampling frame
29 agreed to participate in the survey or directed us to other key
30 informants within their organizations who could provide us
31 better information about their IT outsourcing arrangements.
32 E-mails containing the URL that linked to the web-based
33 online survey instrument were sent to 150 key informants. To
34 increase the response rate, respondents were offered financial
35 incentives as well as a report that summarized the results of
36 the study. Of the 150 participants who agreed, 92 (61.3 per-
37 cent) completed the web-based survey for their outsourcing
38 contracts (see Table 2).

40 To assess potential threats of nonresponse bias, the respon-
41 dent and nonrespondent firms were compared with respect to
42 sales and the number of employees. No significant differ-
43 ences were found at the 0.05 level. Further, the distribution
44 of survey responses from different industries was also
45 examined. While the manufacturing industry was found to be
46 slightly overrepresented and the public/government sector
47 was found to be slightly underrepresented in the respondent
48 group, the sample included various cases of outsourcing
49 arrangements that implemented SLAs from various industries
50 (see Table 2). Demographic information about the respon-
51 dents showed that about 46.8 percent were senior IT execu-

tives and 41 percent were IT managers. Although some pre-
liminary steps were taken to ensure appropriate selection of
key informants, a formal check was administered as part of
the questionnaire (Kumar et al. 1993). Specifically, two items
on a seven-point scale regarding key informant quality were
used to assess an informant’s knowledge about the chosen
agreement and his/her involvement with IT outsourcing
arrangements. The mean score for informant quality for each
item was 5.60 and 5.80 out of 7, respectively, indicating that
respondents were appropriate and, thus, all responses were
retained.

Operationalization of Constructs

All constructs in the survey were measured using multi-item
scales with seven-point Likert rating systems. A conscien-
tious effort was made to adapt existing validated measures
from prior studies for the latent constructs in this research,
whereas new items were developed for the 11 SLA elements
based on an extensive review of SLA documents discussed
below. The specific items used in this study are shown in
Appendix A.

Service Level Agreement Characteristics

We developed a template structure for a comprehensive SLA
in this study using a variety of sources to discover the
contractual elements (or clauses) that are necessary in an
elaborate agreement including the legal perspective of rela-
tional exchange (Macneil 1980), industry best practices about
the fundamental constituents of an SLA (Stone 2001), and the
control theory literature for interorganizational relationship
management (Kirsch 1997). First, Macneil’s (1980) work
differentiated relational exchange from discrete transactions
along several dimensions. We identified 11 contractual issues
that appear important in IT outsourcing relationships that are
conceptualized as relational exchanges. Second, we identified
the actual provisions used in several actual SLAs and in
contract templates suggested by experts, and mapped those
provisions into the above 11 contractual issues, termed SLA
elements in this study. Next, the axial coding technique
(Strauss and Corbin 1990) was employed to categorize the 11
SLA elements into 3 unique categories. Based on the com-
mon underlying themes in these categories, we named them
as foundation, change, and governance characteristics of an
SLA. Finally, we reconciled these categories and the agree-
ment elements with the three types of control modes—
behavior-based, outcome-based, and clan control—used by
organizations to manage interorganizational relationships (see

Table 2. Demographic Characteristics of Respondents (n = 92)

Characteristics	Frequency	Percentage	Mean	Std. Dev.
<i>Title of Respondents</i>				
President	2	2.2%		
CIO/Vice President	11	12.0%		
Director/Assistant Vice President	30	32.6%		
IT Manager	38	41.3%		
Other	7	7.6%		
Not mentioned	4	4.3%		
<i>Respondents' knowledge regarding current SLAs</i>	–	–	5.60	1.04
<i>Respondents' involvement in outsourcing engagement</i>	–	–	5.80	1.08
<i>Types of Industry</i>				
Manufacturing	23	25.0%		
Banking/Finance/Insurance	17	18.5%		
Wholesale/Retail	4	4.3%		
Public/Government	1	1.1%		
Constuction/Real Estate	4	4.3%		
Transportation	4	4.3%		
Medical/Health Care	14	15.2%		
IT/Communication/Software	18	19.6%		
Undecided	7	7.6%		

Choudhury and Sabherwal 2003; Kirsch 1997). Table 3 summarizes these SLA template development efforts.

We developed multi-item seven-point Likert-type scales for all agreement elements. Items were initially created based on contractual clauses mapped to related contractual elements of agreements (see Table 3). Next a panel of SLA experts examined the content validity of these items and necessary changes were made based on this review. Finally, the survey was pilot tested with several local organizations that had implemented SLAs in their outsourcing contracts, which enhanced the face validity of the items by clarifying terms, reordering questions, and revising instructions in the questionnaire. A final set of 33 items representing 11 different elements of agreements were presented to the respondents. The expectation is that these 33 items will uniquely measure their associated factors and that this system of factors will measure a second-order factor of an agreement (i.e., the three SLA characteristics).

Relational Governance and Control Variables

Using five items, relational norms (Cronbach's alpha = .83) was evaluated along the three norms of solidarity, flexibility,

and information exchange (Heide and John 1992). Harmonious conflict resolution (Cronbach's alpha = .85) was measured through three items adapted from scales developed in earlier research (Robey et al. 1989). Respondents were asked to rate their satisfaction with how conflicts are resolved. Three items were adapted from existing scales (Lee and Kim 1999) to measure mutual dependence (Cronbach's alpha = .82). Respondents were asked to rate the extent to which both SR and SP realize benefits and share responsibilities. Our measure for trust (Cronbach's alpha = .81) was based on the conceptualization by Zaheer et al. (1998) and three items for this construct were adapted from scales used in the context of outsourcing capturing the trust of the service recipient in the service provider (Lee and Kim 1999). Seven items were used to capture three measurable criteria of commitment (Cronbach's alpha = .89): inputs, durability, and consistency (Kumar et al. 1995). *Length of association* was measured by asking respondents to indicate the year when the IT contracting activity started. For the cases where outsourcing contracts had terminated at the time of the survey, the duration for which the contract was in force was considered as the length of association. Respondents were also asked to indicate the *type of IT activity* being outsourced. The *extent of substitution* was measured as the percentage of IT budget spent on IT outsourcing as shown in Appendix A.

Table 3. The Contractual Elements of Service Level Agreements in IT Outsourcing[†]

Underlying Themes in Common	Contractual Elements of SLA	Contractual Issues of SLA in IT Outsourcing	Clauses in Practice
Foundation Characteristics (FC): <ul style="list-style-type: none"> Publicizing common values, beliefs, philosophy within a clan (Kirsch 1977) Resulting in sharing a common ideology, internalizing a set of values, and committing to a clan (Choudhury and Sabherwal 2003) Providing means to create a general commitment between partners from which desirable actions evolve (Williamson 1985) 	Service Level Objectives	Spirit of contractual and publicity of common values, beliefs, philosophy between organizations to ensure performance	<ul style="list-style-type: none"> A statement of both SR's and SR's business objectives from the engagement A statement of overall change expectation within the SR A statement of expectations and capabilities of the SP
	Process Ownership Plan	Number of companies taking part in some aspect of the IS portfolios when outsourced	<ul style="list-style-type: none"> Statement of processes that are delivered via the agreement Statement of processes directly affected by the services included in the agreement Statement of processes that are required to manage the agreement between SR and SP Statement of process ownership roles, authorities, and responsibilities
	Service Level Contents	Specification of Obligations in terms of a statement of work, the associated and required service levels, and the price to be paid into all sourcing agreements	<ul style="list-style-type: none"> A general description of the services required, major categories of services, and specific service elements A compilation of the most common service levels completed for each service level Service-level target, time frame definition, quality statement, etc.
Change Characteristics (CC): <ul style="list-style-type: none"> Specific rules and procedures, which would lead to desired outcome if followed (Choudhury and Sabherwal 2003; Kirsch 1997) Mechanisms that facilitate joint adaptation to problems raised from unforeseeable changes in the contract (Williamson 1996) Methodology aligned to match known exchange hazards, particularly those associated with uncertainty (Williamson 1985, 1991) 	Future Demand Management Plan	Planning the process and methodologies for coping with change and contingencies in long-term engagements; agreeing to agree	<ul style="list-style-type: none"> Joint (SR/SP) demand forecasting process Assumptions made and process for updating the key assumptions that affect demand Prioritization methodology for current and future demands Process for scheduling, costing, and modifying agreements
	Anticipated Change Plan	The joint development of expectations about perceived uncertainties, especially concerned with anticipated conflicts of interest and potential trouble	<ul style="list-style-type: none"> Clear definitions of the key categories of change Roles, responsibilities, and decision-making procedures for the SR and SP for each category of change Top drivers for changed, reviewed regularly
	Feedback Plan	Continuous processes for changing interfaces, approaches, and attitudes toward better service delivery states within a deal based on learning by doing	<ul style="list-style-type: none"> Statement of how changes will be implemented based on measurement results The road map for an efficient feedback on the identified drawbacks Prioritization methodology for current tasks and feedback
	Innovation Plan	Cooperative innovation, especially joint efforts at continuous performance improvement and planning	<ul style="list-style-type: none"> Process for innovation, including implementation and prioritization Process for technology advancement (scope improvement and technology refreshes/ upgrades) Business-measured innovation (business process improvement)
Governance Characteristics (GC): <ul style="list-style-type: none"> Mechanisms that mitigate disruptions (Williamson 1996) Rewards or sanctions for meeting or missing the targets (Klein et al. 1978) Setting and checking performance targets, interim milestones to ensure that the relationship remains on course (Choudhury and Sabherwal 2003; Kirsch 1997; Ouchi 1979) 	Communication Plan	The approach for disseminating contract-related information to all of the parties involved in the relationship through scheduled interaction and communication such as formal meeting and reporting	<ul style="list-style-type: none"> Organizational reporting structure Identified communication initiatives/initiative owners Identified recipients for various communication initiatives Common schedules and media
	Measurement Charter	Tactical measurements for calculating and reckoning of service performance as well as success metrics derived from the SR's strategic plan	<ul style="list-style-type: none"> Statement of measurement methodology Definition of what is to be measured Definition of processes to periodically measure the defined categories Interfaces with the feedback plan
	Conflict Arbitration Charter	Balance of power that imposes one's will on others	<ul style="list-style-type: none"> A statement of the parameters for involving the third party in discussions between the SR and SP Process description to determine how the parties interact A schedule for regular interactions between the parties, and timetables for resolving issues between the SR and SP A statement of the practices and conduct rules required to preserve the interdependence of the independent advisor
	Enforcement Plan	Carrot-and-stick; sharing of benefits and burdens	<ul style="list-style-type: none"> Penalty/reward definitions and formula Conditions under which termination may occur Detailed list of all penalty assumptions (e.g., implementation process, reporting process, due diligence process, HR process, knowledge transfer)

[†]Adapted from Macneil (1980) and Dwyer et al. (1987)

1 Results

3 Measurement Model

5 Measurement Properties of Variables

7 Given our conceptualization of SLA characteristics as formative second-order constructs, confirmatory factor analysis (CFA)⁶ was employed to assess the validity of the measurement model. Statistical evidence of both convergent validity and unidimensionality were checked through high and significant factor loadings as well as low residuals between the observed and implied covariance matrices. While the confirmatory factor analysis showed no items with either low loadings (< 0.50) or high cross-loadings (> 0.5), the initial model was found to have poor model fit. Refinements to the model were made⁷ using high standardized residuals and high modification indices as a guide (Kline 1998). The final model comprising 33 items for the 11 elements of the service level agreement is shown in Appendix A. The analysis resulted in a converged model with a low χ^2 per degree of freedom and a good fit as indicated by all the listed fit indices (Gefen et al. 2000). The model fit indices provide evidence of the unidimensionality of the items and their respective elements of the agreement. The comparative fit index and Tucker-Lewis index are considered to be robust indicators of model fit, and it is recommended that their values be above 0.90 (Gefen et al. 2000). As is evident from Appendix A, values of both of these indicators provide evidence of good model fit. Although the root mean square error of approximation (RMSEA) should ideally be less than 0.05, Browne and Cudeck (1993) suggest that an RMSEA of less than 0.08 is also practical evidence of good model fit. Collectively, these results provide strong support to the measurement model for the SLA constructs.

37 Composite reliability for all 16 variables in the research model, including the 11 SLA variables, was computed in line

⁶While exploratory factor analysis (EFA) may be useful in exploring potential latent factors in the development of measures, EFA assumes that measurement items' errors are uncorrelated and it cannot test whether some elements together form second order factors. In contrast, CFA takes item error correlations into consideration and may, thus, reveal more complex relationships embedded in the items.

⁷Refinements were made with extreme caution so that the modified model would not be capitalizing on "chance" rather than reflecting true sources of variation in the observed covariance matrix. For example, *innovation plan* identifies the structure and process for introducing new innovations but it needs to be synchronized with enforcement plan such as penalties or incentives for its effectiveness. Thus, it seems reasonable to conclude that there may be shared variances between items in an innovation plan and a reinforcement plan that are not captured by the present model.

with the recommendations of Fornell and Larcker (1981). Scores above 0.50 indicate that at least 50 percent of the variance in measurement is captured by the trait variance and are, therefore, evidence of good measurement properties. Collectively, the results from composite reliability, average variance extracted, factor loadings, and t-values shown in Table 4 suggest that the indicators account for a large portion of the variance of the corresponding latent constructs and, therefore, provide support for the convergent validity of the measures (Gefen et al. 2000). Discriminant validity was assessed by comparing every pair of the 11 SLA latent constructs (Anderson and Gerbing 1988). Pair-wise χ^2 difference tests were carried out requiring the estimation of 110 covariance structures (55 constrained and 55 unconstrained). Results indicate that the χ^2 values of all 55 unconstrained models were significantly lower than that of the constrained models at 95 percent or higher significance levels. This provides strong evidence of discriminant validity and indicates that the 11 contractual elements are unique and the correlations between pairs of elements are significantly different from unity. In addition, for satisfactory discriminant validity, the square root of average variance extracted (AVE) from the construct should be greater than the variance shared between the construct and other constructs in the model. Table 5 lists the correlation matrix, with correlations among constructs and the square root of AVE on the diagonal. Both tables provide strong evidence of discriminant validity.

Assessing the Second-Order Factor Model for SLAs

The 11 contract elements and the 5 relational constructs in this study are reflective. However, the three higher-level characteristics of service level agreements are conceptualized and implemented as formative constructs in this study. The 11 first-order SLA elements are aggregated in appropriate combinations to form super-ordinate second-order constructs (Chin 1998a) because we do not anticipate the elements of a particular agreement characteristic to be necessarily correlated with each other.

To assess dimensionality as well as the convergent and discriminant validity of the 3 second order SLA constructs, alternative first-order and second-order measurement models were compared separately for each of the three constructs (see Tanriverdi 2005). For assessing each second-order agreement construct, we considered four separate models. Model 1 hypothesizes that a unidimensional first-order factor accounts for the variance among all measurement items of the particular second-order SLA construct. Model 2 hypothesizes that the measurement items of a specific second-order SLA construct form into respective first-order factors that are uncor-

Table 4. The Assessment of the Measurement Models: Evidence of Convergent Validity

Constructs	# of Items	Composite Reliability [†]	Average Variance Extracted	Loadings (t-Statistics) [‡]
Service Level Objectives	3	0.87	0.69	0.83 (19.01), 0.84 (17.33), 0.81 (12.47)
Process Ownership Plan	3	0.92	0.80	0.94 (62.93), 0.89 (32.62), 0.85 (22.68)
Service Level Contents	3	0.91	0.77	0.90 (50.49), 0.89 (35.26), 0.83 (23.31)
Future Demand Management Plan	3	0.93	0.81	0.89 (35.81), 0.90 (37.28), 0.91 (39.86)
Anticipated Change Plan	3	0.92	0.80	0.90 (42.75), 0.89 (29.37), 0.90 (35.02)
Innovation Plan	3	0.90	0.75	0.75 (8.94), 0.90 (37.87), 0.92 (52.41)
Feedback Plan	3	0.94	0.84	0.90 (43.50), 0.91 (19.15), 0.93 (52.56)
Communication Plan	3	0.93	0.81	0.88 (29.53), 0.91 (29.34), 0.91 (43.10)
Measurement Charter	3	0.93	0.82	0.90 (37.49), 0.89 (33.16), 0.92 (35.83)
Conflict Arbitration Charter	3	0.89	0.73	0.82 (14.18), 0.84 (28.00), 0.90 (28.37)
Enforcement Plan	3	0.91	0.76	0.87 (28.70), 0.91 (36.34), 0.84 (14.77)
Relational Norms (RN)	5	0.88	0.60	0.77 (13.42), 0.78 (16.58), 0.74 (9.19), 0.81 (19.26), 0.77 (13.35)
Commitment (CM)	7	0.93	0.64	0.81 (18.75), 0.84 (21.51), 0.81 (18.78), 0.78 (18.45), 0.74 (13.27), 0.82 (22.31), 0.81 (22.04)
Harmonious Conflict Resolution (HCR)	3	0.91	0.78	0.89 (30.97), 0.90 (34.86), 0.85 (27.33)
Trust (TR)	3	0.89	0.72	0.90 (46.86), 0.86 (23.95), 0.78 (17.25)
Mutual Dependence (MD)	3	0.90	0.74	0.85 (25.47), 0.85 (25.91), 0.88 (24.25)

[†]The composite reliability scores were calculated with the formula prescribed by Fornell and Larcker (1981).

[‡]p < .001

Table 5. Correlations of Latent Variables and Evidence of Discriminant Validity

	SLO	POP	SLC	ACP	FDMP	CM	FN	IP	FP	CP	MC	CAC	EP	HCR	TR	MD
SLO	0.83															
POP	0.52	0.89														
SLC	0.60	0.60	0.87													
ACP	0.35	0.55	0.51	0.90												
FDMP	0.39	0.61	0.61	0.65	0.90											
CM	0.53	0.54	0.63	0.24	0.67	0.80										
RN	0.34	0.48	0.50	0.20	0.24	0.67	0.77									
IP	0.37	0.41	0.45	0.66	0.67	0.31	0.21	0.86								
FP	0.44	0.48	0.54	0.56	0.69	0.41	0.29	0.61	0.91							
CP	0.48	0.58	0.64	0.47	0.56	0.54	0.47	0.46	0.63	0.90						
MC	0.53	0.57	0.70	0.40	0.62	0.58	0.46	0.50	0.64	0.69	0.91					
CAC	0.42	0.38	0.45	0.50	0.55	0.43	0.34	0.56	0.64	0.54	0.59	0.85				
EP	0.25	0.43	0.44	0.21	0.34	0.37	0.35	0.28	0.29	0.43	0.31	0.32	0.87			
HCR	0.39	0.46	0.54	0.21	0.32	0.67	0.61	0.23	0.33	0.41	0.50	0.27	0.47	0.88		
TR	0.45	0.44	0.52	0.22	0.21	0.62	0.64	0.27	0.31	0.41	0.48	0.36	0.48	0.70	0.85	
MD	0.48	0.39	0.52	0.22	0.20	0.60	0.56	0.25	0.30	0.45	0.55	0.38	0.52	0.50	0.64	0.86

1 related. Model 3 hypothesizes that these first-order factors
 2 are freely correlated with each other. Finally, Model 4 hy-
 3 pothesizes a second-order factor that accounts for the patterns
 4 of covariance (combinations) among the first-order factors as
 5 conceptualized in this study. Comparison of Model 1 ($\chi^2 =$
 6 137.1, d.f. = 27; $\chi^2 = 300.8$, d.f. = 54; $\chi^2 = 305.7$, d.f. = 54
 7 for foundation, change, and governance characteristics,
 8 respectively) and Model 2 ($\chi^2 = 115.2$, d.f. = 27; $\chi^2 = 230.2$,
 9 d.f. = 54; $\chi^2 = 201.6$, d.f. = 54 for foundation, change, and
 10 governance characteristics, respectively) indicates that Model
 11 2 is a better-fitting model (lower chi-square for the same
 12 degrees of freedom), indicating the multidimensionality of
 13 each characteristic. Further comparison of Model 2 ($\chi^2 =$
 14 115.2, d.f. = 27; $\chi^2 = 230.2$, d.f. = 54; $\chi^2 = 201.6$, d.f. = 54
 15 for foundation, change, and governance characteristics,
 16 respectively) with Model 3 ($\chi^2 = 41.4$, d.f. = 24; $\chi^2 = 81.0$,
 17 d.f. = 48; $\chi^2 = 109.6$, d.f. = 48 for foundation, change, and
 18 governance characteristics, respectively), indicates that Model
 19 3 (unconstrained model) for each SLA characteristic is
 20 superior to Model 2 (constrained model) with significant
 21 changes in chi-square ($\Delta\chi^2 = 73.8$, Δ d.f. = 3; $p < 0.0001$; $\Delta\chi^2$
 22 = 149.2, Δ d.f. = 6; $p < 0.0001$; $\Delta\chi^2 = 92$, Δ d.f. = 6; $p <$
 23 0.0001, respectively). In Model 3, standardized factor
 24 loadings of measurement items on their respective factors are
 25 all highly significant ($p < 0.001$), providing support for
 26 *convergent validity* of each of the three agreement charac-
 27 teristics. Superiority of Model 3 (unconstrained model) over
 28 Model 2 (constrained model) indicates that pairs of correla-
 29 tions among the first-order factors are significantly different
 30 from zero and below the cut-off value of 0.90 (Bagozzi et al.
 31 1991). This demonstrates distinctiveness of theoretical con-
 32 tent captured by the individual first-order factors and provides
 33 support for *discriminant validity of the SLA constructs*
 34 (Anderson 1987; Bagozzi et al. 1991).

35
 36 Finally, we examine the efficacy of second-order SLA con-
 37 structs by comparing Model 4 (second-order factor model)
 38 with Model 3 (unconstrained first-order factors model). An
 39 external criterion variable, relational norm, was used to be
 40 able to compare these two models due to issues of identi-
 41 fication (see Tanriverdi 2005). Model 3, discussed above,
 42 represents a direct-effects model and tests direct effects of the
 43 first-order factors of specific SLA characteristics on relational
 44 norm. Model 4 entails a second-order factor model and
 45 captures how the first-order factors of the particular second-
 46 order factor interact with each other and collectively impact
 47 relational norm. To test if the second-order factor model is
 48 superior to the first order factor model, two criteria were used:
 49 (1) model statistics of the two specifications (Venkatraman
 50 1990), and (2) target coefficient (T) statistics (Marsh and
 51 Hocevar 1985). Model statistics of the first-order ($\chi^2 = 280.0$,
 52 d.f. = 75; $\chi^2 = 472.2$, d.f. = 116; $\chi^2 = 465.9$, d.f. = 116, respec-
 53 tively) and second-order ($\chi^2 = 299.2$, d.f. = 77; $\chi^2 = 490.4$,

d.f. = 119; $\chi^2 = 495.6$, d.f. = 119, respectively) models are
 similar for all three SLA characteristics. The second-order
 factor model is preferred because it is more parsimonious with
 fewer parameters to be estimated and more degrees of
 freedom (Venkatraman 1990). The target coefficient values
 (T = 0.93, 0.96, 0.94, respectively) are very close to the
 theoretical upper limit of 1, indicating that the second-order
 factor accounts for 93 percent, 96 percent, and 94 percent of
 the relationship among the first-order factors of each agree-
 ment characteristic. This also suggests acceptance of the
 second-order factor model (Marsh and Hocevar 1985).
 Further, all β estimates between the second-order factors and
 relational norm are above the recommended 0.20 value (Chin
 1998b), and exhibit significantly high t-values, providing
 further evidence for the second-order factor model for SLAs.
 In sum, on both theoretical and empirical grounds, the con-
 ceptualization of SLA characteristics as second-order
 multidimensional constructs appears justified.

Structural Model

The assessment and estimation of structural model was con-
 ducted using partial least squares (PLS). The PLS technique
 is appropriate and well-suited for this study because it allows
 for latent constructs to be modeled with formative indicators.
 This is an important requirement in our case as we model the
 three second-order SLA characteristics with formative first-
 order SLA elements in this study (Chin 1998a). We do this
 because the first-order SLA elements are not necessarily
 correlated with each other (e.g., a particular contract may
 have some clauses in it but not others).⁸

In order to determine the precision of estimation in our PLS
 estimation, minimum sample size check and a reactive Monte
 Carlo analysis were performed (Chin 1998b). First, our
 sample size of 92 exceeded the recommended minimum of 60
 (for the commitment construct), which was adequate for
 model testing. Second, a bootstrapping procedure with re-
 sampling of 500 subsamples was used to determine the statis-
 tical significance of the parameter estimates (Chin 1998b).
 As justified in the hypothesis development section, the struc-
 tural model also incorporated various interaction terms in
 order to test either moderating effects or substitution versus

⁸We modeled the second-order SLA characteristics with reflective, rather than formative, first-order SLA elements in the measurement model even though the first-order constructs are not expected to be correlated. This was done due to the limitation of covariance-based structural equation modeling techniques that were used to assess the efficacy of a second-order factor structure for SLAs, as these techniques do not allow the modeling of second-order factors with first-order formative constructs.

1 complementarity between the latent variables. Following
 2 Goerzen and Beamish's (2003) approach, our nonlinear equa-
 3 tion including interactions terms was analyzed through a PLS
 4 model incorporating latent variable scores for interaction
 5 terms, as suggested by Jöreskog (2000). These latent variable
 6 scores are estimated by constructing individual scores on all
 7 endogenous and exogenous variables for every case in the
 8 sample such that their sample mean vector and covariance
 9 matrix satisfy the same relationships as the latent variables
 10 themselves (for a detailed explanation of the matrix algebra,
 11 see Jöreskog 2000). Based on the results of this procedure,
 12 the structural model was assessed examining the magnitude,
 13 statistical significance of the path coefficients, and R^2 in the
 14 structural model. A summary of these results is presented in
 15 Table 6.

17 As shown in Table 6, foundation, change, and governance
 18 characteristics in the model contributed positively and
 19 significantly to the development of relational norms ($\beta =$
 20 $0.277, p < 0.05$; $\beta = 0.266, p < 0.01$; and $\beta = 0.579, p < 0.01$,
 21 respectively), supporting hypotheses 1a, 1b, and 1c.
 22 Similarly, foundation and governance characteristics con-
 23 tributed positively and significantly to harmonious conflict
 24 resolution ($\beta = 0.425, p < 0.01$ and $\beta = 0.248, p < 0.05$,
 25 respectively), supporting hypotheses 2a and 2c. However, the
 26 hypothesized relationship between change characteristics and
 27 harmonious conflict resolution was not supported. All three
 28 foundation, change, and governance characteristics contri-
 29 buted positively and significantly to the development of
 30 mutual dependence ($\beta = 0.334, p < 0.05$; $\beta = 0.224, p < 0.05$;
 31 and $\beta = 0.449, p < 0.01$, respectively), supporting hypotheses
 32 3a, 3b, and 3c, respectively. Of the variances of relational
 33 norms, harmonious conflict resolution, and mutual depen-
 34 dence in the model, 40 percent, 31 percent, and 35 percent,
 35 respectively, were explained by three characteristics of SLA.
 36 Overall, these results provide compelling evidence that
 37 clauses in the formal contract positively impact important
 38 aspects of relational governance. As hypothesized, harmoni-
 39 ous conflict resolution and mutual dependence had significant
 40 and positive effects on trust ($\beta = 0.486, p < 0.01$ and $\beta =$
 41 $0.246, p < 0.01$, respectively), supporting hypotheses 4a and
 42 4b. These two relational governance factors explained 38
 43 percent of the variance in trust. Also, as hypothesized,
 44 relational norms and mutual dependence had significant and
 45 positive effects on commitment ($\beta = 0.242, p < 0.01$; and $\beta =$
 46 $0.445, p < 0.05$, respectively), accounting for 64 percent of
 47 variance in commitment, providing strong support for hy-
 48 potheses 5a and 5b.

50 Testing possible substitution versus complementarity between
 51 SLA and relational governance using interaction terms also

generated very interesting results. While all coefficient
 estimates for the interaction effects between SLA constructs
 and relational governance constructs on trust as well as
 commitment are statistically significant, both the signs and the
 significance levels of these estimates vary. All interaction
 terms involving foundation and governance characteristics on
 both trust (i.e., FC \times HCR, FC \times MD, GC \times HCR, and GC \times
 MD) and commitment (i.e., FC \times RN, FC \times MD, GC \times RN,
 and GC \times MD) bore positive signs and were statistically
 significant ($\beta = 0.135, p < 0.05$; $\beta = 0.255, p < 0.05$; $\beta =$
 $0.704, p < 0.1$; $\beta = 0.902, p < 0.05$, $\beta = 0.336, p < 0.05$; $\beta =$
 $0.521, p < 0.05$; $\beta = 0.252, p < 0.1$; and $\beta = 0.144, p < 0.05$,
 respectively). These results support hypotheses H8a, 8b, 8e,
 8f, 9a, 9b, 9e, and 9f and provide further evidence for a
 complementary relationship between these two SLA charac-
 teristics (foundation and governance characteristics) and the
 relational governance variables of relational norms, har-
 monious conflict resolution, and mutual dependence. How-
 ever, all interaction terms involving change characteristics on
 both trust (i.e., CC \times HCR and CC \times MD) and commitment
 (i.e., CC \times RN and CC \times MD) bore negative signs and were
 statistically significant ($\beta = -0.359, p < 0.05$; $\beta = -0.175, p <$
 0.05 ; $\beta = -0.245, p < 0.1$ and $\beta = -0.570, p < 0.05$, respec-
 tively). These negative signs are contrary to our expectations
 as they suggest that change characteristics in a contract may
 have a substitutive relationship with relational governance.
 Finally, the interaction effects between trust and harmonious
 conflict resolution, and between trust and mutual dependence
 on commitment are statistically significant with positive signs
 ($\beta = 0.187, p < 0.05$; and $\beta = 0.397, p < 0.05$, respectively),
 supporting H5c and H5d. These findings lead to several
 insights and we discuss them below.

Discussion

First, the findings above indicate that the three key attributes
 of relational governance—relational norms, harmonious con-
 flict resolution, and mutual dependence—mediate the impact
 of SLA characteristics (foundation, change, and governance
 characteristics) on relational outcomes of *trust* (explaining 38
 percent of variance) and *commitment* (explaining 54 percent
 of variance), both of which are critical safeguards for future
 exchanges in an IT outsourcing relationship. For a service
 recipient and its service provider to move toward this state of
*embeddedness*⁹ (Lee et al. 2004; Uzzi 1997) with high psy-

⁹Embeddedness is a logic of exchange that promotes economies of time,
 integrative agreements, Pareto improvements in allocative efficiency, and
 complex adaptation.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Table 6. Structural Model Results [†]									
		FC	CC	GC	RN	HCR	MD	TR	CM
11 Contractual Elements	Service Level Objectives	0.330***							
	Process Ownership Plan	0.412***							
	Service Level Contents	0.423***							
	Future Demand Management Plan		0.302***						
	Anticipated Change Plan		0.281***						
	Innovation Plan		0.259***						
	Feedback Plan		0.314***						
	Communication Plan			0.365***					
	Measurement Charter			0.420***					
	Conflict Arbitration			0.249***					
	Enforcement			0.221***					
SLA Characteristics	Foundation Characteristics (FC)				0.277**	0.425***	0.334**		
	Change Characteristics (CC)				0.266***	0.117	0.224**		
	Governance Characteristics (GC)				0.579***	0.248**	0.449***		
Relational Governance	Relational Norm (RN)								0.242***
	Harmonious Conflict Resolution (HCR)							0.486***	
	Mutual Dependence (MD)							0.246***	0.445**
	Trust (TR)								0.567**
Interaction Terms	FC x RN								0.336**
	FC x HCR							0.135**	
	FC x MD							0.255**	0.521**
	CC x RN								-0.245*
	CC x HCR							-0.359**	
	CC x MD							-0.175**	-0.570**
	GC x RN								0.252*
	GC x HCR							0.704*	
	GC x MD							0.902**	0.144**
	TR x HCR								0.187**
	TR x MD								0.397**
L x FC				0.474*					
L x CC				0.046					
L x GC				-0.191					
Control Variables	Length of Association (L)							0.229	0.350*
	Type of IT Activity								-0.231
	Extent of Substitution								0.409*
R-square					0.397	0.308	0.347	0.381	0.642

[†]Suggested by Jöreskog (2000) and following Goerzen and Beamish (2003), PLS was performed using latent variable scores to test nonlinear equations.
 Note: The numbers in the cells are standardized beta values from the PLS structural model.
 *p < 0.1; **p < 0.05; ***p < 0.01

1 chological bonds of trust and commitment, the two parties
 2 need to develop mechanisms to create relational norms,
 3 engage in harmonious conflict resolution, and develop mutual
 4 dependence on one another in the outsourcing relationship.
 5 Our research provides strong evidence that they can use well-
 6 developed formal contracts to develop these relational attri-
 7 butes. This finding is consistent with observations in econo-
 8 mics that formal contracts may affect the self-enforcing nature
 9 of relational governance (Baker et al. 1994; Klein 1996).

10
 11 Second, some outsourcing engagements are based largely on
 12 mutual trust and do not specify written and detailed contracts
 13 due to the difficulty of anticipating and specifying all possible
 14 expectations and contingencies. However, our results provide
 15 strong evidence in favor of using a well-structured SLA in an
 16 IT outsourcing engagement. First, a well-structured agree-
 17 ment will supply IT outsourcing engagements with a “safety
 18 net” in lieu of exclusive reliance on trust (Sabherwal 1999).
 19 Further, the explicit clauses dealing with the three SLA
 20 characteristics may also serve to develop social elements in
 21 relational exchanges including higher levels of relational
 22 norms, mutual dependence, and trust that are usually asso-
 23 ciated with hierarchies (Stinchcombe 1985). Our findings
 24 also reinforce the suggestion by Fitzgerald and Willcocks
 25 (1994) that partnership issues in IT outsourcing must be con-
 26 sidered only in conjunction with contractual arrangements.
 27 They are also in line with Sabherwal’s (1999) view about the
 28 need for balance between trust and structural controls in
 29 outsourced IS development projects, as excessive focus and
 30 reliance on only one of them can hurt performance.

31
 32 Third, barring one exception, the findings of this study favor
 33 a complementary relationship between SLA and relational
 34 governance. The three SLA characteristics (foundation,
 35 change, and governance) were found to be significant direct
 36 predictors of the three relational governance attributes
 37 (relational norms, harmonious conflict resolution, and mutual
 38 dependence), which in turn increase the level of trust and
 39 commitment in the relationship. Further, all interaction rela-
 40 tionships involving foundation and governance characteristics
 41 of SLAs showed positive and significant effects on trust and
 42 commitment, providing further evidence about the comple-
 43 mentarity between these two contract characteristics and
 44 relational governance. These results indicate that the various
 45 characteristics of agreements can promote harmonious and
 46 useful relationships with high trust and commitment. Even
 47 though it may appear at first blush that change and govern-
 48 ance characteristics can actually hinder relationship building
 49 because these characteristics provide the buyer with the
 50 ability to punish the service provider for deviating from
 51 cooperative behavior, our results suggest that these charac-

teristics can also induce relational governance because the
 ability to unilaterally punish deviation actually strengthens
 incentives for cooperation as well.¹⁰

However, our results provide mixed evidence with respect to
 change characteristics of contracts. While the change charac-
 teristics construct was found to have a direct, positive effect
 on relational governance attributes, its interaction with those
 attributes had a negative impact on the relationship between
 relational attributes and relational outcomes of trust and com-
 mitment. This suggests that change characteristics dampen
 the positive effects of relational attributes on trust and com-
 mitment. These anomalous findings indicate that while incor-
 porating very specific and detailed change clauses in a
 contract may build relational attributes, these clauses may
 simultaneously create a detrimental effect on trust and com-
 mitment through their interaction with the relational attributes.
 One plausible explanation for this anomaly may be found in
 the fact that formal contract changes are one of the most
 difficult aspects of market exchanges, because it is in this area
 that opportunism has the most potential to raise its ugly head.
 However, changes are endemic to IT outsourcing since pro-
 cesses change, and firms continuously embed new knowl-
 edge/strategies as their competition evolves. Unlike physical
 product component outsourcing that can be easily modu-
 larized, it is hard to do so in IT outsourcing due to high-
 dependence and lack of maturity (Tanriverdi et al. 2007).
 Consequently, changes to the formal contract may best be
 negotiated in a continuous interactive environment of mutual
 adjustment between the two parties concerned so “give and
 take” on contract changes can take place most effectively,
 rather than in an environment where contract changes are
 brought about following a “cookie cutter” standardized ap-
 proach or through plans, procedures, and schedules captured
 in SLA clauses. Essentially, what this means is that the
 process of formal contract changes exhibits reciprocal inter-
 dependence requiring mutual adjustment rather than stan-
 dardization through plans and schedules that are required for
 pooled and sequential interdependence, respectively¹¹
 (Thompson 1967). Therefore, while detailed written clauses
 as part of change characteristics in an agreement may increase
 relational attributes of relational norms, harmonious conflict

¹⁰We are very thankful to an anonymous reviewer for providing this insightful observation.

¹¹We are very thankful to the associate editor and an anonymous reviewer for this insightful explanation about the unexpected finding with respect to the negative moderating impact of change characteristics on the relationship between relational attributes and relational outcomes of trust and commitment.

1 resolution, and mutual dependence, such detailed clauses may
2 actually have a negative, detrimental effect on trust and com-
3 mitment in combination with those high relational attributes.
4 This would suggest that the parties concerned should not have
5 all the contingencies, processes, and methods for contract
6 changes prespecified in the SLA because these clauses may
7 ultimately hamper the development of trust and commitment
8 in the relationship. However, more research will need to be
9 conducted to shed further light on this anomalous finding.
10 Overall, this study adds further evidence at a much finer level
11 of granularity, supporting the complementary nature of rela-
12 tionship between formal contracts and relational governance,
13 as was also found by Poppo and Zenger (2002), albeit only at
14 an aggregate level.

15
16 Consistent with existing literature, relational norms, mutual
17 dependence, and trust were found to be significantly related
18 to commitment in the IT outsourcing relationship. Antici-
19 pating possible reciprocal relationships between harmonious
20 conflict resolution and trust, and between mutual dependence
21 and trust, interaction terms for these variables on commitment
22 were also tested in the model. Results show that the two
23 interaction terms are positively and significantly related to
24 commitment, providing some evidence of the reciprocal and
25 reinforcing nature of these relationships. A complete and
26 reliable test for these cyclical relationships in a snapshot data
27 set would require modeling bi-directional reciprocal rela-
28 tionships in the structural model. However, we are not able
29 to test bi-directional linkages in the current study as the model
30 did not meet the rank and order conditions. Further research
31 using longitudinal data or a model with other exogenous
32 variables will be needed to further test these cyclical
33 relationships.

34
35 As extant literature holds that the length of interaction is a
36 source of trust in interorganizational relationships, we incor-
37 porated in our model both the length of association (a control
38 variable) and the contract characteristics (hypothesized vari-
39 ables) as sources of trust to see which effect predominates in
40 the IT outsourcing context. We found that the effects of
41 agreement characteristics on trust, mediated through relational
42 attributes, are more powerful than the effect of length of
43 association on trust, which was found to be statistically not
44 significant. This may be attributed to the fact that “calcula-
45 tive” trust between strangers may be more essential than the
46 trust that arises due to repeated interactions in IT outsourcing
47 arrangements (Ho and Weigelt 2005). In other words, trust in
48 an IT outsourcing context may depend largely upon the
49 protective support and assurances provided by the terms and
50 provisions in the formal contract that specify contingencies,
51 adaptive processes, and controls as these are likely to mitigate
52 opportunistic behavior and support relational governance.

Limitations and Future Research Directions

There are a number of limitations with our study and we discuss them below. First, there are at least two potential concerns associated with our research design that utilizes a single respondent for each outsourcing contract: common methods variance and the respondent’s biases and knowledge base. While these certainly remain limitations of the study, they are not very serious limitations. With respect to common methods variance, most of the issues examined in this research pertain to organizational actions (constituent elements of SLA) rather than individual cognitions. Given the factual nature of the items for assessing a majority of the constructs, the possibility of a common method problem was minimal (Podsakoff et al. 2003). We also performed Harman’s single factor test (Podsakoff and Organ 1986) by conducting an exploratory factor analysis. This analysis generated a large number of factors with the first factor accounting for only 18 percent of the total variance, providing evidence that a substantial amount of common method variance is not present in this study. Further, as shown in Table 3, individuals responding to the survey questionnaire possessed both appropriate knowledge about contracts and specific organizational responsibility for the outsourcing arrangements in question. This reduces the severity of concerns about biases and knowledge base of respondents.

The second limitation is related to the first one in terms of mono-method bias. This limitation has to do with perceptual data about service level agreements. We don’t know the extent to which respondent opinions about their contracts are valid. That is, respondent perceptions about their agreements may be colored by their other perceptions about their relationships with their service providers. However, our study used very precise questions based on actual clauses in contracts as discussed earlier. Nonetheless, we recommend that future studies verify respondent perceptions about their contracts by comparing respondent scores on SLA questions with scores given by an independent panel of experts for the presence of specific elements in a subsample of actual agreements.

The third limitation of the study emanates from the snapshot nature of the survey used in this study. A number of relationships in our model are potentially cyclical including the relationships between the three contract characteristics (foundation, change, and governance) and the three relational governance attributes (relational norms, harmonious conflict resolution, and mutual dependence), the relationship between harmonious conflict resolution and trust, and the relationship between mutual dependence and trust. Unidirectional relationships between these variables are justified if data are

1 collected longitudinally, such that data for the exogenous
 2 (independent) variables are collected earlier than the data for
 3 endogenous (dependent) variables. In our context of a snap-
 4 shot survey, it would be appropriate to model these
 5 relationships with bi-directional links in the SEM model to
 6 capture the bi-directional nature of these relationships.
 7 However, identification of an SEM model requires the
 8 meeting of rank and order conditions, which our model did
 9 not meet due to the lack of sufficient number of exogenous
 10 variables that predict the variables involved in bi-directional
 11 relationships. Essentially, what this means is that we need
 12 other exogenous variables that predict the three SLA
 13 characteristics (foundation, change, and governance), the
 14 three relational attributes (relational norms, harmonious
 15 conflict resolution, and mutual dependence), and trust. Future
 16 research studies should overcome this problem of bi-
 17 directionality by either incorporating additional exogenous
 18 variables in the model or through a longitudinal study.

19
 20 Another limitation that directly emanates from our inability to
 21 model bi-directional relationships in the model deals with our
 22 tests of complementarity versus substitution relationship
 23 between formal contract and relational governance. The
 24 complete and reliable evidence for a complementarity versus
 25 a substitution relationship will come from bi-directional
 26 linkages, as was done by Poppo and Zenger (2002). Comple-
 27 mentarity implies that “x increases y” and “y increases x” in
 28 turn, while substitution implies the converse: “x decreases y”
 29 and “y decreases x” in turn. However, as discussed above, we
 30 were not able to test this in our model due to the limited
 31 number of exogenous variables in the model that predict the
 32 variables involved in the bi-directional relationships. An
 33 alternate way to gather evidence for complementarity/substi-
 34 tution relationship is to include interaction effects between the
 35 variables involved in complementary/substitution relation-
 36 ships on the performance variables, here trust and commit-
 37 ment, as complementarity implies interaction. This alternate
 38 method was also used by Poppo and Zenger, and this is the
 39 method we use in the current study. As suggested above,
 40 future studies should incorporate additional exogenous vari-
 41 ables in the model for further testing of the nature of the rela-
 42 tionship between formal contract and relational governance.

43
 44 The fourth potential limitation concerns the nature of the
 45 sample utilized in this study and, thus, the external validity of
 46 our findings. Our sample was limited to Korean domestic
 47 organizations and was selected from the attendee list of an
 48 outsourcing conference. Therefore, generalizing the observed
 49 structure of service level agreement or its impact on relational
 50 governance to organizations of other nations or beyond the
 51 sampling frame may be problematic.

The final limitation of this study lies in the choice of the
 respondent type in this study. We empirically tested a model
 of the impacts of formal contractual elements on relational
 governance in a service recipient–service provider dyad using
 data collected from service recipients. We did not examine
 these impacts from the service providers’ perspective. This
 resulted in measuring commitment of both service providers
 and service recipients to their relationship only from the
 recipients’ perspective. Results of our study would certainly
 be more robust if we had data about commitment from the
 providers’ side as well. Nonetheless, this is not expected to
 be a major limitation of this study because a service reci-
 pient’s perceptions about its service provider’s commitment
 are influenced by the provider’s actual commitment to the
 relationship. This is because both partners reveal some of
 their true feelings, actions, and intentions to each other during
 their interactions over time (Anderson and Weitz 1992).

Contributions and Implications

Notwithstanding the above limitations, this research makes
 two significant contributions. First, this study contributes to
 the IT outsourcing literature both conceptually and empiri-
 cally. Conceptually we develop a comprehensive SLA struc-
 ture based in both extant theories as well as best practices
 used in the industry. Empirically we contribute by developing
 and validating an instrument for measuring formal SLAs used
 in the IT outsourcing contracts and this instrument can be
 productively used in future empirical studies. Further, while
 the importance generally ascribed to partnership-style rela-
 tionships and their influence on outsourcing success has been
 empirically examined (Lee and Kim 1999), IT outsourcing
 research has largely neglected to examine the methods to
 develop those kinds of relationships. By integrating the litera-
 ture on interorganizational relationships from organizational
 theory, strategic management, marketing, economics, and
 information systems, we provide an inclusive and concep-
 tually sound framework for developing partnership-style
 relationships with high levels and trust and commitment
 through the use of well-structured SLAs in IT outsourcing
 arrangements.

This paper also extends the view propagated by Poppo and
 Zenger that formal contracts and relational governance func-
 tion as complements rather than as substitutes. We follow the
 call made by these authors to understand in much more depth
 the relationship between specific formal contractual clauses
 and relational governance attributes, and focus our study on
 SLA characteristics that capture various contractual clauses
 in the context of IT outsourcing relationships to understand

1 their impact on some key relational governance variables. All
 2 three characteristics of formal contracts—foundation, change,
 3 and governance characteristics—contribute fairly to the devel-
 4 opment of relational norms, harmonious conflict resolution,
 5 and mutual dependence. Consistent with the findings by
 6 Poppo and Zenger, our results show that IT outsourcing
 7 engagements tend to employ a greater level of relational
 8 governance overall when they use well-structured and com-
 9 prehensive SLAs. However, the study also suggests that
 10 change characteristics in contracts can dampen trust and
 11 commitment in the relationship, perhaps due to reciprocal
 12 interdependence inherent in the contract change process
 13 requiring mutual adaptation rather than contractual clauses.
 14 Further, our findings confirm the conceptualization of govern-
 15 ance as embodied in both the *formal contract* and the *social*
 16 *elements* of an interorganizational relationship and support the
 17 view propounded by Sobrero and Schradar (1998) that
 18 procedural coordination might not only be structurally iden-
 19 tified by the form of formal contract but also by the form of
 20 so called relational (Baker et al. 2002) or psychological (Koh
 21 et al. 2004) contracts.

22
 23 This study also has two managerial implications. Many IT
 24 organizations do not have well-structured SLAs using which
 25 they can manage the activities and relationships associated
 26 with their IT outsourcing efforts (Karten 2004). A lack of
 27 well-developed contracts leads to erroneous conclusions
 28 pertaining to the value of SLAs in promoting relational
 29 governance and in managing successful outsourcing rela-
 30 tionships. In many situations, service level agreements are
 31 mostly treated as a stick in the “carrot and stick” control
 32 paradigm, and are used to monitor the SP’s performance so
 33 deficiencies can be adequately measured and penalized. The
 34 value of a service level agreement in promoting harmonious
 35 social relationships is generally neither visible nor understood
 36 in these contexts. This study provides clear evidence that
 37 well-developed SLAs not only provide a way for measuring
 38 service provider performance, but also provide a way to
 39 effectively manage IT outsourcing engagements through the
 40 development of relational governance. The study also pro-
 41 vides a comprehensive set of 11 contractual elements cate-
 42 gorized into 3 substantive dimensions including foundation,
 43 change, and governance characteristics. These three dimen-
 44 sions provide a parsimonious SLA structure for practitioners,
 45 and the scales associated with the 11 contract elements
 46 provide a useful tool to them for rationalizing and refining the
 47 elements of their SLAs.

48 **Acknowledgments**

49
 50 This material is based upon work supported by the National Science
 51 Foundation under Grant No. 9907325. Any opinions, findings, and

conclusions or recommendations expressed in this material are those
 of the author(s) and do not necessarily reflect the views of the
 National Science Foundation. This research was also supported by
 a CanAm grant. The research of the third author is supported in part
 by the NSF under Grant No. 0809186. The usual disclaimer applies.
 The authors are very grateful to the senior editor, the associate
 editor, and the three anonymous reviewers for their insightful com-
 ments and invaluable suggestions that greatly helped improve the
 quality and lucidity of the paper. The authors are also grateful to
 Professor Sabyasachi Mitra of Georgia Tech, participants at the
 MSS Colloquium at SUNY Buffalo, and the anonymous reviewers,
 discussant, and the attendees at the 25th ICIS conference for pro-
 viding valuable suggestions that also helped improve our paper.

References

- Anderson, E., and Weitz, B. 1989. “Determinants of Continuity in
 Conventional Industrial Channel Dyads,” *Marketing Science*
 (8:4), pp. 310-323.
- Anderson, E., and Weitz, B. 1992. “The Use of Pledges to Build
 and Sustain Commitment in Distributional Channels,” *Journal of*
Marketing Research (29), pp. 18-34.
- Anderson, J. C. 1987. “An Approach for Confirmatory Mea-
 surement and Structural Equation Modeling of Organizational
 Properties,” *Management Science* (33:4), pp. 525-541.
- Anderson, J. C., and Gerbing, D. W. 1988. “Structural Equation
 Modeling in Practice: A Review and Recommended Two-Step
 Approach,” *Psychological Bulletin* (103:3), pp. 411-423.
- Bagozzi, R. P., Yi, Y., and Phillips, L. W. 1991. “Assessing
 Construct Validity in Organizational Research,” *Administrative*
Science Quarterly (36:3 (September)), pp. 421-458.
- Baker, G., Gibbons, R., and Murphy, K. J. 1994. “Subjective Per-
 formance Measures in Optimal Incentive Contracts,” *The*
Quarterly Journal of Economics (109:4), pp. 1125-1156.
- Baker, G., Gibbons, R., and Murphy, K. J. 2002. “Relational Con-
 tracts and the Theory of the Firm,” *The Quarterly Journal of*
Economics (117), pp. 39-83.
- Borys, B., and Jemison, D. B. 1989. “Hybrid Arrangements as
 Strategic Alliances: Theoretical Issues in Organizational Combi-
 nations,” *Academy of Management Review* (14:2), pp. 234-249.
- Browne, M. W., and Cudeck, R. 1993. “Alternative Ways of
 Assessing Model Fit,” in *Testing Structural Equation Models*, K.
 A. Bollen and J. S. Long (eds.), Newbury Park, CA: Sage
 Publications, pp. 136-162.
- Carte, T. A., and Russell, C. J. 2003. “In Pursuit of Moderation:
 Nine Common Errors and Their Solutions,” *MIS Quarterly*
 (27:3), pp. 479-501.
- Chin, W. W. 1998a. “Issues and Opinion on Structural Equation
 Modeling,” *MIS Quarterly* (22:1), pp. vii-xvi.
- Chin, W. W. 1998b. “The Partial Least Squares Approach to Struc-
 tural Equation Modeling,” in *Modern Methods for Business*
Research, G. A. Marcoulides (ed.), Mahwah, NJ: Lawrence
 Erlbaum Associates, pp. 295-336.
- Choudhury, V., and Sabherwal, R. 2003. “Portfolios of Control in
 Outsourced Software Development Project,” *Information Systems*
Research (14:3), pp. 291-341.

- 1 Cumming, T. 1984. "Transorganizational Development," *Research*
 2 *in Organizational Behavior* (6), pp. 367-422.
- 3 Dant, R. P., and Schul, P. L. 1992. "Conflict Resolution Processes
 4 in Contractual Channels of Distribution," *Journal of Marketing*
 5 (56:1), pp. 38-54.
- 6 Deutsch, M. 1973. *The Resolution of Conflict: Constructive and*
 7 *Destructive Processes*, New Haven, CT: Yale University Press.
- 8 Dore, R. 1983. "Goodwill and the Sprit of Market Capitalism,"
 9 *British Journal of Sociology* (34), pp. 459-482.
- 10 Doz, Y. L. 1996. "The Evolution of Cooperation in Strategic Alli-
 11 ances: Initial Conditions or Learning Processes?," *Strategic*
 12 *Management Journal* (17:Evolutionary Perspectives on Strategy
 13 Supplement), pp. 55-83.
- 14 Dwyer, F. R., Schurr, P. H., and Oh, S. 1987. "Developing Buyer-
 15 Seller Relationships," *Journal of Marketing* (51:2), pp. 11-27.
- 16 Fitzgerald, G., and Willcocks, L. 1994. "Contracts and Partnerships
 17 in the Outsourcing of IS," in *Proceedings of the 15th International*
 18 *Conference on Information Systems*, J. I. DeGross, S. L. Huff,
 19 and M. C. Munro (eds.), Vancouver, British Columbia, pp. 91-98.
- 20 Fornell, C., and Larcker, D. F. 1981. "Evaluating Structural Equa-
 21 tion Models with Unobservable Variables and Measurement
 22 Error," *Journal of Marketing Research* (18), pp. 39-50.
- 23 Gefen, D., Straub, D. W., and Boudreau, M.-C. 2000. "Structural
 24 Equation Modeling and Regression: Guidelines for Research
 25 Practice," *Communications of the AIS* (4:7).
- 26 Ghoshal, S., and Moran, P. 1996. "Bad for Practice: A Critique of
 27 the Transaction Cost Theory," *Academy of Management Review*
 28 (21:1), pp. 13-47.
- 29 Goerzen, A., and Beamish, P. W. 2003. "Geographic Scope and
 30 Multinational Enterprise Performance," *Strategic Management*
 31 *Journal* (24:13), December, pp. 1289-1306.
- 32 Gulati, R. 1995. "Does Familiarity Breed Trust? The Implications
 33 of Repeated Ties for Contractual Choices in Alliances," *Academy*
 34 *of Management Journal* (38:1), pp. 85-112.
- 35 Hart, O. 1988. "Incomplete Contracts and the Theory of the Firm,"
 36 *Journal of Law, Economics, and Organization* (4:1), pp. 119-139.
- 37 Heide, J. B., and John, G. 1992. "Do Norms Matter in Marketing
 38 Relationships?," *Journal of Marketing* (56:2), pp. 32-45.
- 39 Ho, T.-H., and Weigelt, K. 2005. "Trust Building among Stran-
 40 gers," *Management Science* (51:4), April, pp. 519-530.
- 41 Jap, S. D., and Ganesan, S. 2000. "Control Mechanisms and the
 42 Relationship Life Cycle: Implications for Safeguarding Specific
 43 Investments and Developing Commitment," *Journal of Mar-
 44 keting Research* (37:2), May, pp. 227-245.
- 45 Jöreskog, K. G. 2000. "Latent Variable Factor Scores and Their
 46 Uses" (<http://www.ssicentral.com/lisrel/techdocs/lvscores.pdf>).
- 47 Kale, P., Singh, H., and Perlmutter, H. 2000. "Learning and Protec-
 48 tion of Proprietary Assets in Strategic Alliances: Building
 49 Relational Capital," *Strategic Management Journal* (21:3), pp.
 50 217-237.
- 51 Karten, N. 2004. "With Service Level Agreements, Less Is More,"
 52 *Information Systems Management* (21:4), pp. 43-44.
- 53 Kern, T., and Blois, K. 2002. "Norm Development in Outsourcing
 54 Relationships," *Journal of Information Technology* (17:1), pp.
 55 33-42.
- Kern, T., and Willcocks, L. 2002. "Exploring Relationships in In-
 formation Technology Outsourcing: The Interaction Approach,"
European Journal of Information Systems (11:1), pp. 3-19.
- Kern, T., Willcocks, L. P., and van Heck, E. 2002. "The Winner's
 Curse in IT Outsourcing: Strategies for Avoiding Relational
 Trauma," *California Management Review* (44:2), pp. 47-69.
- Kirsch, L. J. 1997. "Portfolios of Control Modes and IS Project
 Management," *Information Systems Research* (8:3), pp. 215-239.
- Kishore, R., Rao, H. R., Nam, K., Rajagopalan, S., and Chaudhury,
 A. 2003. "A Relationship Perspective on IT Outsourcing,"
Communications of the ACM (46:12), pp. 86-92.
- Klein, B. 1996. "Why Hold-Ups Occur: The Self-Enforcing Range
 of Contractual Relationships," *Economic Inquiry* (34:3), pp.
 444-463.
- Kline, R. B. 1998. *Principles and Practice of Structural Equation*
Modeling, New York: The Guilford Press.
- Koh, C., Ang, S., and Straub, D. W. 2004. "IT Outsourcing
 Success: A Psychological Contract Perspective," *Information*
Systems Research (15:4), pp. 356-373.
- Kumar, N., Scheer, L. K., and Steenkamp, J.-B. E. M. 1995. "The
 Effects of Perceived Interdependence on Dealer Attitudes,"
Journal of Marketing Research (32:3), pp. 348-356.
- Kumar, N., Stern, L. N., and Anderson, J. C. 1993. "Conducting
 Interorganizational Research Using Key Informants," *Academy*
of Management Journal (36:6), pp. 1633-1651.
- Lambe, C. J., Spekman, R., and Hunt, S. D. 2000. "Interimistic
 Relational Exchange: Conceptualization and Propositional
 Development," *Journal of the Academy of Marketing Science*
 (28:2), pp. 212-225.
- Lee, J.-N., and Kim, Y.-G. 1999. "Effect of Partnership Quality on
 IS Outsourcing: Conceptual Framework and Empirical Validat-
 ion," *Journal of Management Information Systems* (15:4), pp.
 29-61.
- Lee, J.-N., Miranda, S. M., and Kim, Y.-M. 2004. "IT Outsourcing
 Strategies: Universalistic, Contingency, and Configurational
 Explanations of Success," *Information Systems Research* (15:2),
 pp. 110-131.
- Levinthal, D. A., and Fichman, M. 1988. "Dynamics of Inter-
 organizational Attachments Auditor-Client," *Administrative*
Science Quarterly (33:3), pp. 345-370.
- Macaulay, S. 1963. "Non-Contractual Relations in Business: A
 Preliminary Study," *American Sociological Review* (28), pp.
 55-67.
- Macneil, I. R. 1980. *The New Social Contract: An Inquiry into*
Modern Contractual Relations, New Haven, CT: Yale Uni-
 versity Press.
- March, J. G., and Simon, H. A. 1958. *Organizations*, New York:
 John Wiley & Sons, Inc.
- Marsh, H. W., and Hocevar, D. 1985. "Application of Con-
 firmatory Factor Analysis to the Study of Self-Concept: First and
 Higher Order Factor Models and Their Invariance across
 Groups," *Psychological Bulletin* (97:3), pp. 562-582.
- Mayer, K. J., and Argyres, N. S. 2004. "Learning to Contract:
 Evidence from the Personal Computer Industry," *Organization*
Science (15:4), July/August, pp. 394-410.

- 1 McEvily, B., Perrone, V., and Zaheer, A. 2003. "Trust as an
2 Organizing Principle," *Organization Science* (14:1), pp. 91-105.
- 3 McKnight, D. H., Cummings, L. L., and Chervany, N. L. 1998.
4 "Initial Trust Formation in New Organizational Relationships,"
5 *Academy of Management Review* (23:3), pp. 473-490.
- 6 Miranda, S. M., and Saunders, C. S. 2003. "The Social Construc-
7 tion of Meaning: An Alternative Perspective on Information
8 Sharing," *Information Systems Research* (14:1), pp. 87-106.
- 9 Mohr, J., and Spekman, R. 1994. "Characteristics of Partnership
10 Success: Partnership Attributes, Communication, Behavior, and
11 Conflict Resolution Techniques," *Strategic Management Journal*
12 (15:2), pp. 135-152.
- 13 Morgan, R. M., and Hunt, S. D. 1994. "The Commitment-Trust
14 Theory of Relationship Marketing," *Journal of Marketing* (58:3),
15 pp. 20-39.
- 16 Ouchi, W. G. 1979. "A Conceptual Framework for the Design of
17 Organizational Control Mechanisms," *Management Science*
18 (25:9), pp. 833-848.
- 19 Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., and Podsakoff, N. P.
20 2003. "Common Method Biases in Behavioral Research: A
21 Critical Review of the Literature and Recommended Remedies,"
22 *Journal of Applied Psychology* (88:5), pp. 879-903.
- 23 Podsakoff, P. M., and Organ, D. W. 1986. "Self-Reports in Organi-
24 zational Research: Problems and Prospects," *Journal of Manage-
25 ment* (12:4), pp. 531-544.
- 26 Poppo, L., and Zenger, T. 2002. "Do Formal Contracts and Rela-
27 tional Governance Function as Substitutes or Complements?,"
28 *Strategic Management Journal* (23:8), pp. 707-725.
- 29 Ring, P., and Van de Ven, A. 1994. "Developmental Processes of
30 Cooperative Interorganizational Relationships," *Academy of
31 Management Review* (19:1), pp. 90-118.
- 32 Robey, D., Farrow, D. L., and Franz, C. R. 1989. "Group Process
33 and Conflict in System Development," *Management Science*
34 (35:10), pp. 1172-1191.
- 35 Sabherwal, R. 1999. "The Role of Trust in Outsourced IS Develop-
36 ment Projects," *Communications of the ACM* (42:2), pp. 80-86.
- 37 Scanzoni, J. 1979. "Social Exchange and Behavioral Interdepend-
38 ence," in *Social Exchange in Developing Relationships*, R. L.
39 Burgess and T. L. Huston (eds.), New York: Academic Press.
- 40 Segars, A. H., and Grover, V. 1998. "Strategic Information
41 Systems Planning Success: An Investigation of the Construct
42 and Its Measurement," *MIS Quarterly* (22:2), pp. 139-163.
- 43 Sobrero, M., and Schrader, S. 1998. "Structuring Inter-Firm Rela-
44 tionships: A Meta-Analytic Approach," *Organization Studies*
45 (19:4), pp. 585-615.
- 46 Stinchcombe, A. L. 1985. "Contracts as Hierarchical Documents,"
47 in *Organization Theory and Project Management*, A. L. Stinch-
48 combe and C. A. Heiner (eds.), London: Oxford University
49 Press, pp. 121-170.
- 50 Stone, L. 2001. "Beyond T&Cs: What Must Be Included in Ser-
51 vices Contracts," AV-14-3036, Stamford, CT: Gartner Group.
- 52 Strauss, A., and Corbin, J. 1990. *Basics of Qualitative Research:
53 Grounded Theory Procedures and Techniques*, Newbury Park,
54 CA: Sage Publications.
- 55 Sturm, R., Morris, W., and Jander, M. 2000. *Foundations of
56 Service Level Agreement*, Indianapolis, IN: SAMS.
- Tanriverdi, H. 2005. "Information Technology Relatedness,
Knowledge Management Capability, and Performance of Multi-
business Firms," *MIS Quarterly* (29:2), pp. 311-334.
- Tanriverdi, H., Konana, P., and Ge, L. 2007. "The Choice of
Sourcing Mechanisms for Business Processes," *Information
Systems Research* (18:3), pp. 280-299.
- Thompson, J. D. 1967. *Organizations in Action*, New York:
McGraw-Hill.
- Uzzi, B. 1997. "Social Structure and Competition in Interfirm
Networks: The Paradox of Embeddedness," *Administrative
Science Quarterly* (42:1), pp. 35-67.
- Venkatraman, N. 1990. "Performance Implications of Strategic
Coalignment: A Methodological Perspective," *Journal of
Management Studies* (27:1), pp. 19-41.
- Williamson, O. E. 1985. *The Economic Institutions of Capitalism*,
New York: The Free Press.
- Williamson, O. E. 1996. *The Mechanisms of Governance*, New
York: Oxford University Press.
- Zaheer, A., McEvily, B., and Perrone, V. 1998. "Does Trust
Matter? Exploring the Effects of Interorganizational and Inter-
personal Trust on Performance," *Organization Science* (9:2), pp.
141-160.
- Zaheer, A., and Venkatraman, N. 1995. "Relational Governance as
an Interorganizational Strategy: An Empirical Test of the Role
of Trust in Economic Exchange," *Strategic Management Journal*
(16:5), pp. 373-392.
- Zucker, L. G. 1986. "Production of Trust: Institutional Sources of
Economic Structure, 1840-1920," in *Research in Organizational
Behavior*, B. M. Staw and L. L. Cummings (eds.). Greenwich,
CT: JAI Press, pp. 53-111.

About the Authors

Jahyun Goo is an assistant professor of MIS at the Florida Atlantic University. He received his Ph.D. and MBA degrees in MIS from the School of Management at the State University of New York at Buffalo. His active research areas are information systems sourcing, IT management and strategy, interorganizational relationships, and IS security. His articles have appeared in journal such as *Decision Sciences*, *Decision Support Systems*, *Information Systems Journal*, and *Information Systems Frontier*, and he has presented his research at major conferences such as the International Conference on Information Systems, the Hawaii International Conference on System Sciences, the Americas Conference on Information Systems, and the European Conference on Information Systems. He received a best paper award at HICSS in 2007 and was nominated for a best paper award at ECIS in 2006. He is a guest associate editor of *MIS Quarterly*'s special issue on cybersecurity.

Rajiv Kishore is an associate professor in the School of Management at the State University of New York at Buffalo. His interests are in improving organizational and IT performance through the effective management of global IT and services outsourcing projects, technology adoption and implementation, and agile methods.

1 His papers have been published in *Journal of Management*
2 *Information Systems*, *IEEE Transactions on Engineering Manage-*
3 *ment*, *Communications of the ACM*, *Decision Support Systems*,
4 *Information & Management*, *Information Systems Frontiers*, *Journal*
5 *of Database Management*, and *Advances in Management Infor-*
6 *mation Systems*, among others. He also received a multiyear
7 National Science Foundation research grant as a co-principal
8 investigator in the area of IT outsourcing and is a guest editor of a
9 special issue of the *Journal of the AIS*. Rajiv has consulted with a
10 number of large companies, some of which include BellSouth, Blue
11 Cross Blue Shield of Minnesota, IBM, and Pioneer Standard
12 Electronics.

13
14 **H. R. Rao's** interests are in the areas of management information
15 systems, decision support systems, and expert systems and informa-
16 tion assurance. He has authored or co-authored more than 150
17 technical papers, of which more than 90 are published in archival
18 journals. His work has received best paper and best paper runner up
19 awards at the Americas Conference on Information Systems and the

International Conference on Information Systems. Dr. Rao has received funding for his research from the National Science Foundation, the Department of Defense, and the Canadian Embassy, and he has received the University's prestigious Teaching Fellowship. He also received the Fulbright fellowship in 2004. He is an editor of a special issues of *The Annals of Operations Research* and the *Communications of ACM*, associate editor of *Decision Support Systems*, *Information Systems Research*, and *IEEE Transactions in Systems, Man and Cybernetics*, and guest editor of *MIS Quarterly's* special issue on cybersecurity, as well as an Editor-in-Chief of *Information Systems Frontiers*.

Kichan Nam is a professor of MIS at Sogang University in Seoul, Korea. He received his Ph.D. in MIS from the School of Management at the State University of New York at Buffalo. He has published several research papers and books in the area of IT outsourcing. He has consulted in the area of IT outsourcing with several large companies on *Fortune's* Global 500 list, including Samsung and LG.

1 Appendix A

2 Measurement Items

3	Constructs	Items
4	Service Level Objectives	A statement of the service recipient's (SR) management and organizational expectations at the end of the contract, once the relationship is fully operational (0.673)
5		A statement of innovation expectations and capabilities of the service provider (SP) (0.733*)
		A statement of the SR's business objectives from the service (0.803*)
6	Process Ownership Plan	Statement of process ownership roles and responsibilities (0.695)
7		Inventory of processes that are required to manage the agreements between the SR and SP (0.880*)
8		Inventory of processes directly affected by the services included in the agreements (0.913*)
9	Service Level Contents	A statement of the key business measurements required by the SR (0.591)
10		Established service-level/quality targets (0.779*)
		A general description of the service require, major categories of services, and specific service elements (0.849*)
11	Future Demand Management Plan	Processes for scheduling, costing, and modifying agreements with new demand (0.847)
12		The processes used to obtain end-user feedback on the SP's delivery of services that are provisioned to meet new demand (0.863*)
13		The processes that the SR and SP will use to prioritize changes and modify the volume, type, or level of service to match evolving user requirements (0.845*)
14		
15	Anticipated Change Management Plan	Relevant technology, business, and industry drivers for change (0.832)
16		Roles, responsibilities, and decision-making procedures of the SR and SP for each category of change (0.792*)
17		Clear definitions of the key categories of change (i.e., predetermined change such as charges for volume, type, or level of service to match evolving user requirements) (0.862*)
18		
19	Innovation Plan	Process for innovation, including implementation and prioritization (0.845)
20		Process for business improvement and technology advancements (e.g., scope improvement and technology refreshes/upgrades) (0.931*)
		Innovation incentive (reward) programs (0.683*)
21	Feedback Plan	Statement of how change will be implemented based on measurement results (0.875)
22		The road map for an efficient feedback on the identified drawbacks (0.870*)
		Prioritization methodology for current tasks and feedback (0.880*)
23	Communication Plan	Statement of the communication policy (0.816)
24		Organizational reporting structure (0.866*)
25		Identified communication reporting structure (0.866*)
26	Measurement Charter	Statement of measurement methodology (0.858)
27		Definition of what is to be measured (e.g., price and service benchmarking clause, customer satisfaction, contract and relationship alignment and vision, etc.) (0.859*)
		Definition of processes to periodically measure the defined categories (0.813*)
28	Conflict Arbitration Charter	A statement of the parameters for involving the third party in discussions between the SR and SP (0.814)
29		A schedule for regular interactions between the parties, and timetables for discussions between the SR and SP (0.680*)
30		A statement of the practices and conduct rules required to preserve the independence of the independent advisor (0.852*)
31	Enforcement Plan	Penalty definitions and formula (0.705)
32		Conditions under which termination may occur (0.956*)
		Statement of exit responsibilities (0.788*)

Constructs	Items							
1 2 Relational Norms	Both parties in the relationship are willing to accommodate each other as conditions change.							
	Flexibility in response to requests for changes is a characteristic of this relationship.							
	The parties are committed to improvements that may benefit the relationship as a whole, and not only the individual parties.							
	Both parties in the relationship effectively exchange information with each other.							
3 Commitment	It is expected that we keep each other informed about events or changes that may affect the other party.							
	Both parties are willing to commit resources to sustain the relationship.							
	If we requested it, SP would be willing to make further investment to support our needs.							
	We are willing to put more effort and investment in building our business relationship with SP.							
	Even if they could, SP would not drop our organization as a service recipient (client) because they like being associated with us.							
	We want to remain a customer to SP because we genuinely enjoy our relationship with them.							
4 5 6 Harmonious Conflict Resolution	The continuation of a relationship with SP is very important to us.							
	SP expects the relationship with us to continue for a long time.							
	Disagreements between both parties in the relationship are almost always successfully resolved.							
7 Trust	Differences of opinion were resolved to the mutual satisfaction of conflicting parties.							
	The discussions I have had with this SP's personnel on areas of disagreement increase the effectiveness and strength of our relationship.							
	The SP makes beneficial decisions to us under any circumstances.							
8 9 Mutual Dependence	The SP is sincere at all times.							
	The SP has always provided us a completely truthful picture of the relevant IT services.							
	Both parties in the relationship share the risks that can occur in the process of business.							
10 11 Type of IT Activity	Both parties in the relationship have collective responsibility of benefits and risks.							
	Both parties in the relationship effectively carry out services that the other is dependent on.							
12 13 Length of Association	Please provide a brief description of IT services the SP currently provides your organization.							
	<table border="0"> <tr> <td>1. Application services</td> <td>5. Network management</td> </tr> <tr> <td>2. Systems integration</td> <td>6. Disaster recovery</td> </tr> <tr> <td>3. Data center management</td> <td>7. PC management and maintenance</td> </tr> <tr> <td>4. Training and consulting</td> <td>8. Company-specific application development</td> </tr> </table>	1. Application services	5. Network management	2. Systems integration	6. Disaster recovery	3. Data center management	7. PC management and maintenance	4. Training and consulting
1. Application services	5. Network management							
2. Systems integration	6. Disaster recovery							
3. Data center management	7. PC management and maintenance							
4. Training and consulting	8. Company-specific application development							
14 15 Extent of Substitution	How long is the contract term with the SP in Year ____?							
	When did you start contracting IT services from the SP?							
16 17 18 19 20 21 22 23	For the last fiscal year, percentage of IT budget spent on IT outsourcing:							
	1. Less than 5%							
	2. 5% to below 10%							
	3. 10% to below 20%							
	4. 20% to below 40%							
	5. 40% to below 60%							
	6. 60% to below 80%							
	7. 80% and above							

Notes: The numbers in parentheses are standardized parameter estimates of SLA items for the measurement validation. *p < .001. The first item loading in each latent construct is fixed at 1.00 and does not have a t-value.

Model fit indices: Goodness of fit (χ^2) with 380 degrees of freedom = 491.7 (p = 0.00)
 Goodness of fit index = 0.87
 Adjusted goodness of fit index = 0.84
 Comparative fit index = 0.95
 RMSEA = 0.57
 Tucker-Lewis Index = 0.94

